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THE FORE RIVER RAILROAD.

BY GEORGE H. CORLISS, ESQ.

Some idea of the relative importance which the railroad bears to the ship building industry may be had from the Fore River railroad, owned, operated and maintained by the Fore River Ship Building Co., of Quincy, Mass.

The railroad was laid out and built under the supervision of M. M. Cannon, C. E., soon after the Fore River Ship & Engine Co. decided to move its plant from Weymouth to Quincy. Mr. Cannon is an engineer of marked ability and has recently been in charge of the development and construction of a thoroughly equipped steamship terminal on a large scale, which the Fore River Ship Building Co. has built at Brunswick, Ga., for the use of the Atlanta, Birmingham & Atlantic Railroad Co.

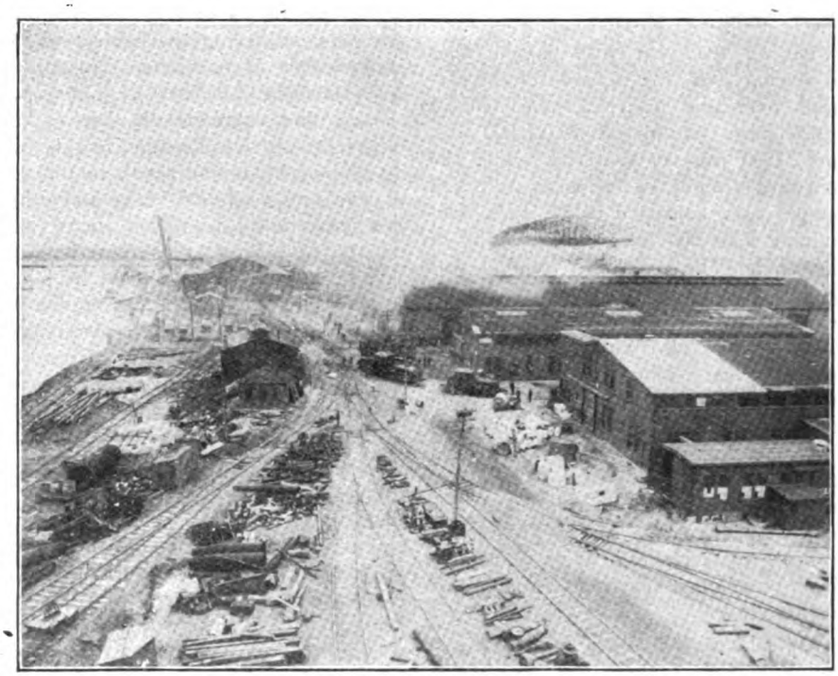
The ship yard, which is all intersected with railroad tracks systematically arranged, is one of the finest and most completely equipped ship yards in the United States. The plant occupies 78 acres of land along the Fore river and has a water frontage of 1¼ miles.

The operation and transportation of the road is well placed in the hands of Louis H. Gieser, who has full responsibility and direct charge of loading of cars, the identification of material, its prompt delivery to point of destination, and the immediate unloading of all material from shops and other sources. The transportation of material in the ship building business is of so much importance, that the handling of material to and from cars is given preference in every case where possible. When cars are ready for the receipt of material cranes are utilized at once to load them and the same in unloading, except in the case of the gantry crane, or other specific cases, which must be dealt with individually.

In the machine shop to and from which vast quantities of rough and finished material is transported, there are three modern Niles electric traveling cranes for the speedy loading and unloading of cars, which handle the heavy loads with safety and ease.

The Fore River railroad operates a number of miles of trackage, of which a considerable portion is inside the ship yard, part of which is double tracked. An adequate signaling system is in use arranged on a systematic plan.

The management is doing everything in its power to maintain the efficiency of the railroad. Renewals of ties have been made in numbers sufficient to keep tracks in proper condition. Rails are inspected periodically and renewed as required to keep the road up to a high standard of efficiency. The fact that no serious accident has ever happened, is good evi-



Photograph of the Fore River yard taken from the roof of the forge shop showing the lower half of the yard, giving a general idea of the arrangement of the principal buildings, slipways and fitting-out docks.

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dence that the road is kept up to a high standard. The highway crossings have all been recently rebuilt at a great expense, being paved with vitrified brick, laid in a solid concrete foundation to prevent sinking. The road is well ballasted with gravel and rock where necessary. The company added a while ago new freight cars, ample in number to meet the requirements of its increasing business. A new Baldwin locomotive engine has just been added having two pair of coupled wheels and an eight wheeled tender. Freight cars and locomotives have been added to the rolling stock from time to time until today there are fourteen standard size flat cars, three large coal cars, and three locomotives. The new large Baldwin is much more powerful than the two older ones together.

On June 1, 1903, the New York, New Haven & Hartford issued a bulletin from its general freight department to all its agents and connections, to the effect that thereafter all shipments for the Fore River Co. could be handled, direct all rail, without transfer, via East Braintree, Mass.

During the year just passed, that is during 1907, the inward freight carried over this railroad consisted of 1,620 cars, containing 59,060,000 lbs. or 29,530 tons of material, while the outward freight exclusive of returned empty cars, consisted of 341 cars, containing 7,200,000 lbs., or 3,600 tons of material. The inward freight was composed of cars of steel and iron plates, angles, channels and other shapes of all kinds and sizes, coal, coke, zinc, copper, brass, acid, ingots, castings, lumber and miscellaneous supplies too numerous to mention, while the outward freight was composed of forgings, castings and other manufactured articles made to the order of outside concerns, steel scrap, chips and turnings, punchings, shearings, furnace discards, etc.

Outside of the above incoming and outgoing freight there was also transported over the railroad 12 special passenger coaches containing the launching parties of the U. S. S. Birmingham, U. S. S. Salem (scout cruisers) and the steamship Everett, among whom were many distinguished persons.

The annual report of the directors of the Fore River Ship Building Co., to the stockholders issued under date of Feb. 11, 1908, for the year 1907, shows that the company is prospering. The average number of employes was 3,340, and the cash receipts for the year were $5,354,697.18.

During the year the battleship Vermont, the freight and passenger turbine steamer Creole, two steel freight steamers Ocmulgee and Ossabaw, two 11,000-ton steel colliers, Everett and Malden, four submarine torpedo boats Viper, Tarantula, Cuttlefish and Octopus, and the steel harbor lighter New England have been completed and delivered.

The following vessels were under construction on Dec. 31, 1907; U. S. battleship North Dakota, U. S. scout cruiser Birmingham, U. S. scout cruiser Salem, seven submarine torpedo boats, one 11,000-ton steel collier Malden, one steel freight steamer Altamaha, four steel U. S. light vessels, and one steel transfer tug.

CONSERVATION OF NATIONAL RESOURCES.

The Pittsburg Chamber of Commerce at a meeting held on March 25 adopted resolutions endorsing the action of President Roosevelt in calling a meeting at the White House to be held May 13, 14 and 15 for the purpose of considering the subject of the conservation of our natural resources. The Pittsburg Chamber of Commerce, representing commercially one of the important districts engaged in the production of bituminous coal, in the use of iron ore, gas, sand, clays and other raw materials, dependent upon our mineral and forest resources, believes that immediate action should be taken by the government to thoroughly investigate their uses and to correct any abuse that may be found. President Roosevelt's letter of invitation as sent to the governors of the states reads as follows:

"The natural resources of the territory of the United States were, at the time of settlement, richer, more varied, and more available than those of any other equal area on the surface of the earth. The development of these resources has given us, for more than a century, a rate of increase in population and wealth undreamed of by the men who founded our government and without parallel in history. It is obvious that the prosperity which we now enjoy rests directly upon these resources. It is equally obvious that the vigor and success which we desire and foresee for this nation in the future must have this as its ultimate material basis.

"In view of these evident facts it seems to me time for the country to take account of its natural resources, and to inquire how long they are likely to last. We are prosperous now; we should not forget that it will be just as important to our descendants to be prosperous in their time as it is to us to be prosperous in our time.

"Recently I exprest the opinion that there is no other question now before the nation of equal gravity with the question of the conservation of our natural resources; and I added that it is the plain duty of those of us who, for the moment, are responsible, to make inventory of the natural resources which have been handed down to us, to forecast as well as we may the needs of the future, and so to handle the great sources of our prosperity as not to destroy in advance all hope of the prosperity of our descendants.

"It is evident that the abundant resources on which the welfare of this nation rests are becoming depleted and in not a few cases are already exhausted. This is true of all portions of the United States; it is especially true of the longer settled communities of the east. The gravity of the situation must, I believe, appeal with special force to the governors of the states because of their close relations to the people and their responsibility for the welfare of their communities. I have, therefore, decided, in accordance with the suggestion of the inland waterways commission, to ask the governors of the states and territories to meet at the White House on May 13, 14 and 15, to confer with the president and with each other upon the conservation of our natural resources.

"It gives me great pleasure to invite you to take part in this conference. I should be glad to have you select three citizens to accompany you and to attend the conference as your assistants or advisors. I shall also invite the senators and representatives of the sixtieth congress to be present at the sessions so far as their duties will permit.

"The matters to be considered at this conference are not confined to any region or group of states, but are of vital concern to the nation as a whole and to all the people. The subjects include the use and conservation of the mineral resources, the resources of the land, and the resources of the waters, in every part of our territory.

"In order to open discussion I shall invite a few recognized authorities to present brief descriptions of actual facts and conditions, without argument, leaving the conference to deal with each topic as it may elect. The members of the inland waterways commission will be present in order to share with me the benefit of information and suggestion, and, if desired, to set forth their provisional plans and conclusions.

"Facts, which I cannot gainsay, force me to believe that the conservation of

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our natural resources is the most weighty question now before the people of the United States. If this is so, the proposed conference, which is the first of its kind, will be among the most important gatherings in our history in its effect upon the welfare of all our people.

"I earnestly hope, my dear governor, that you will find it possible to be present.

Sincerely yours,

(Signed) THEODORE ROOSEVELT."

INLAND WATERWAY FROM BOSTON TO FLORIDA.

Congressman J. Hampton Moore, president of the Atlantic Deep Waterways Association; Addison B. Burke, its secretary and treasurer, and Gov. N. B. Broward addressed the board of trade of Jacksonville recently on the importance of an island waterway from Boston to Florida and the Gulf. President W. A. Bours, of the board of trade, presided. In speaking of the movement he said:

"The present scheme for the development of the waterways of the United States differs radically from the proposals made more than a century ago, although following to some extent the same lines. It covers the continent, instead of being confined to a narrow strip along the Atlantic coast. It contemplates the building not of barge canals but of great ship canals. It includes not only navigation, but the reclamation of arid lands, the drainage of swamp lands, the purification of streams, the reforestation of the mountains, and consequent conservation of the water supply of the country, and finally the utilization of the water power of the streams, through the agency of electricity.

"We, of the Atlantic Deep Waterways Association, while not in the least antagonistic to other projects, are concerned chiefly with our own—the construction of an internal waterway along the coast from Maine to Florida, which shall be ultimately developed into a great ship canal with the projected waterways of the Middle West. Briefly reviewing our own project, it is for a ship canal through Cape Cod, now being built through private enterprise, and possibly for another canal connecting Boston harbor with Narragansett bay; second, the Harlem ship canal, relieving the congestion in New York harbor; third, the Delaware and Raritan canal, connecting New York and Philadelphia; fourth, the Delaware and Chesapeake canal, uniting Philadelphia with Baltimore, Washington and Norfolk; fifth, the canals uniting Chesapeake bay with Albemarle and Pamlico Sounds; sixth, an extension of the inland waterways to connect with the Florida system, the Gulf of Mexico and the Mississippi river."

Congressman Moore is a ready speaker and his address was given the closest attention. He detailed the development of inland waterways and gave an interesting history of the movement. He declared the present proposed plan a feasible one and said:

"Take up the map and see how feasible it is. From the important maritime port of Boston a cut of seven and a half miles across Cape Cod will bring us into Long Island sound, or if we prefer another route, we may pass through Weymouth, Brockton, Taunton and other manufacturing towns, bringing the product of the mills direct to the sea. Statistics taken from the records of the life saving service show that during the 10 years there have been more than 800 disasters along the dangerous Cape Cod coast, and that many of them have been total wrecks. If we follow the course from Boston to Beaufort and on down the gulf we find that during the same period there have been no less than 3,600 disasters, involving millions of property and hundreds of lives. It is to save this property and protect these lives as well as to improve the transportation facilities and advance commerce that the inland waterway is now being earnestly brought to the attention of congress. From the Long Island side of Cape Code the inland waterway would pass through the approaches to New York into Raritan bay, bisecting the state of New Jersey along the lines of a 31-mile canal already established, into the Delaware river, down which it would pass by Trenton, Philadelphia, Wilmington and other cities, until it crosses the state of Delaware, along the lines of a 13-mile canal, which brings it into the Chesapeake bay. Down the Chesapeake it takes its way by the cities of Baltimore and Norfolk into Albermarle and Pamlico sound, finding its outlet to the Atlantic ocean at Beaufort, N. C. But four cuts or enlargements of existing canals are necessary in this proposed chain and the total length of these, apart from the deepening of rivers, would not exceed 66 miles.

"The saving in outside sailing distance around Cape Cod to the harbor of New York, from New York around the New Jersey capes to Philadelphia and from Philadelphia around the Maryland capes to Baltimore, would be 700 miles. Picture to yourselves an inland waterway setting back at times 150 miles from the sea, pursuing an almost straight course from Boston to North Carolina, through which barges, canal boats, launches, tug boats and other vessels of a draught of not more than 16 ft., might safely ride free from the perils of the sea. This inland waterway is open today from the south side of Cape Cod and is available to boats of small draught, but if it is deepened as contemplated, so that the manufacturers of the north may pass inland to the south, stopping from point to point, if needs be, for ocean shipment or for western transportation by railroad, the value of its operations would be incalculable. Nor is the picture at all fanciful; operations have been commenced through private enterprise upon the cut across Cape Cod, deepening it sufficient for the purpose of coastwise vessels and upon the lower end the government is now working north from Beaufort on the link to Norfolk.

Congressman Moore paid a tribute to Jacksonville and Florida and its various resources and said he had never seen a city with citizens so full of life and pluck. He spoke of its natural advantages and its progressiveness and predicted for it a bright future.

"Are you getting all you want out of the possibilities of your state?" asked he.

"The Lord has blessed Florida as no other state. I want to see your state blossom out into something greater and grander and may prosperity continue to stare you in the face.

"If a man needs inspiration he needs only to spend four days along the east coast canal, as I have just done. Why, if the beauty of that canal was fully appreciated in the north, I dare say that next season would find the waterway jammed with craft laden with pleasure-seekers. I think I saw some of the prettiest scenery in my lifetime along the canal. There where the morning glory greets you as you glide over the surface of the water, and the beckoning invitation of the Spanish moss, forces an impulse upon you to linger in its midst.

"I think that it would be advantageous to the builders of the Panama canal to see the way the east coast canal has been built. I am sure money and time could be saved by the experience."

Gov. Broward, who is also a most impressive speaker, and who has given inland waterways deep and careful study, was the last speaker. He com-

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plimented Congressman Moore for his achievements and public-spiritedness, and spoke of the importance of good transportation facilities, inland waterways he regarded as the arteries for cheaper transportation. The governor's address was given the closest attention, and he, too, created a deep impression.

TAFT ON OCEAN MAIL ACT.

In an address before the chamber of commerce, Trenton, N. J., on March 23, Secretary Taft indorsed the ocean mail act in the following language:

"With our immense coast line on the Pacific, with the deep interest that we have in the Chinese trade, certainly we ought to take steps to assist the reconstruction and maintenance of steamers carrying the American flag from our west coast to the orient. The bill which offers inducements for the construction of ships to earn the mail subsidies proposed will be an experiment in this direction and if it proves to be successful it ought to be followed by greater and greater government contributions to the building up of our merchant marine. I cannot understand any difference in principle between government assistance to our merchant marine and our protective tariff system, our system of improvement of internal waterways, or any other method by which the general welfare is promoted through the government's assistance of particular industries, in which all may engage. Let us hope that the mail subsidy bill will lead to the establishment of direct lines between New York and South America on the one hand, and between the Pacific coast, Japan, China and the Philippines on the other, and that it may be the means of pointing out how a wider system of maintenance of the marine may be inaugurated in the public interest.

"We are expending from $200,000,000 to $250,000,000 to build a canal across the Isthmus of Panama. Can it be that this canal is to be built solely for vessels of other countries than the United States? Is it true that the flag of the United States will fly over but few merchantmen passing through this great conquest of nature? The work of the canal is going on. The dirt is flying at the rate now upward of 2,500,000 cubic yards a month. We have every hope that six years from next July our battle fleet may be able to ascend through the locks to the new-made lake and to descend on the other side through the locks to the sea. Ought we not in the six years which lies between the present and the completion of the canal adopt a policy which shall give us a merchant marine to justify our expending this enormous sum of money on commercial as well as naval and war strategic grounds?"

THE COPPER HANDBOOK.

Volume VII of the new edition of the Copper Handbook has just been issued by the author, Horace J. Stevens, of Houghton, Mich. The book has 1,228 pages, octavo, brevier type, being materially larger than before. The author apologizes for his inability to revise the book throughout, explaining that fire, sickness and loss of five months' time prevented, but the new volume contains about 180,000 words of new matter, equal in length to three ordinary works of fiction, in addition to the matter remaining unchanged from the preceding issue.

The new edition of the Copper Handbook contains 25 chapters, an increase of nine, treating of copper under the headings of history, geology, chemistry, mineralogy, mining, milling, concentrating, hydrometallurgy, pyrometallurgy, electrometallurgy, alloys, brands, grades, uses, substitutes, terminology, geography, copper deposits, copper mines and statistics. The treatment given the subject in 1,228 pages is encyclopedic in scope, but the logical and orderly arrangement of the great mass of facts presented, coupled with a table of contents, full index and alphabetical arrangement of districts, countries, mines, minerals and glossary, render it possible to ascertain any given fact with almost as much ease as a word is found in a dictionary. This is a point of much value to readers that has been overlooked in many otherwise excellent works of reference.

The Copper Handbook is not intended to replace other works for the use of technical men, but it does supplement all other technical books on copper, while for the average reader its hundreds of pages devoted to the scientific and technical features of the subject will be found to cover every point of interest. The language is plain throughout, and the layman, whether miner or investor, will find the clear and easily understandable exposition of scientific facts a great aid, as the highly technical language used in many of the best scientific works is a serious stumbling block in the path of the man not technically trained, who is forced to read such books with a dictionary at his elbow.

In whatever light the Copper Handbook is viewed, whether in describing the thousands of different copper mines, in all parts of the world, in the plain descriptions of intricate processes of mining, milling, smelting and refining, or in the 40 pages of statistics covering the copper industry of the globe in its various commercial and financial aspects, the book must stand as a monument of patience and labor, it being the unaided work of a single man.

The book will be found of deep interest and practical value to every man interested in the subject of copper, from whatever standpoint, whether he be engaged in the production or use of the metal, or is an investor in copper shares. The price of the Copper Handbook is $5.00, and the selling plan used is absolutely unique in the book trade. For five years past Mr. Stevens has sent his book, all carriage charges prepaid, without a penny payment in advance, to any person in any part of the world, on one week's approval, subject to return if unsatisfactory. It speaks well for the book that only about one copy in thirty has been returned, and well for the honesty of average human nature that only about one man in thirty keeping the book has failed to pay for it. On these unusual terms anyone interested in copper can well afford to send to Mr. Stevens for a copy of the new edition of the Copper Handbook.

WILL BUILD A LARGE FLOATING DRY DOCK.

The Union Iron Works Co. intends, at once, to begin the construction of a very large floating sectional dry dock, plans and specifications for which have just been completed. The total cost of this huge dock will aggregate about $250,000. This is the first of the improvements for which $1,000,000 was recently appropriated during the last visit of Charles M. Schwab to San Francisco.

This will be a sectional floating dock, that will accommodate, with but four exceptions, any vessel regularly entering the port of San Francisco.

The dock proper will be constructed of pine. This part will be done by contract, the installation of the pumps, the necessary iron work, etc., being done by the Union Iron Works Co. It is expected to have this new dock completed and ready for service within eight months, and moorings off the Union Iron Works plant has already been secured for it.

The big dock will be built in sections, so that both sections can be used together, or separately. The larger section will be 342 ft. 4 in. long, and the shorter section, 162 ft. 4 in long—total length, 504 ft.; total depth, 25 ft. The other dimensions of the two sections are the same, and as follows: Breadth, 100

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ft.; width between towers, 78 ft.; width of towers, 41 ft. 10 in.; depth of base, 12 ft.

The large section will have 28 watertight compartments, and the small section 12. There will be 14 inside flood gates in the large section, and the same number of outside flood gates. The small section will have six of each. The large section will have 12 drainage gates and four discharge gates, while the small section will have four of the former and two of the latter. In both sections there will be 80 gates of all kinds.

The dock will lift 14 tons to the linear foot, or 7,000 tons in all, and this will enable it to dock any vessel entering the port, with the exception of the Mongolia, Manchuria, Korea and Siberia. The towers will have upper-deck compartments, so that water can be pumped into them to facilitate in sinking the dock.

After docking a vessel, this water will be released by gates, and the lower compartments pumped out by six centrifugal pumps, having an aggregate capacity of 2,000,000 gallons per hour. The floor and walls of the dock will be built of 4-in. planking, braced with heavier timbers. The contract for the woodwork will be let at once, and the pumps and iron work will be installed by the Union Iron Works Co. When completed, this will be the only sectional dry dock on the Pacific coast, and the largest floating dock between the mouth of the Yukon and the Straits of Magellan.

The Union Iron Works had a much smaller dock that was operated by a system of very powerful steel cables and pulleys, but this was so badly damaged and wrecked by the great earthquake, that it could not be repaired. Since then, the iron works has had no dry dock of its own.

The United States derelict destroyer, Seneca, was launched from the yard of the Newport News Ship Building & Dry Dock Co., on March 18 and was christened by Miss Edith Hepburn, granddaughter of Congressman W. P. Hepburn of Iowa. This destroyer, which is the first of its kind ever constructed, was completely described in the MARINE REVIEW of March 5.

It is understood that the Oceanic Steamship Co. is arranging for the resumption of its business to New Zealand, Australia and the Samoan Islands upon the passage of the shipping bill by congress. As soon as the bill passes, its three steamers, the Sierra, Sonoma and Ventura, will be restored to service.

FIRST AID TO THE INJURED.

Dr. J. W. Hawes read a paper on "First aid to Injured" before the Y. M. C. A. Institute at Johnstown, and while it was intended for miners it is equally applicable on the lakes. He said:

In preparing this paper, I was somewhat surprised to find how little attention is given to first aid by all parties concerned in the production of soft coal. The operator very seldom gives it any thought, even enough to have a box of every-day remedies at the mine, and the miner himself gives it as little attention as the operator. The result is, that a large percentage of the deaths from accidents in the soft coal regions could be avoided, if prompt and intelligent first aid were administered on the spot. This must, of course, be in the hands of a man of intelligence and therefore, without any flattery intended, should be looked after by the mine foreman. And here let me say I wish to praise the committee which was instrumental in bringing this subject before the meeting of mine leaders, and I will, indeed, feel that this paper is a failure if I do not hear of more of this work in institutes of this kind. In fact, with the improved methods of mining, requiring more machinery, we must expect more accidents, hence more instruction to those in charge to give the proper attention to the injured at the time. The time is not far distant when it will be required of mine foremen to have some knowledge of first aid.

To get the matter before you in the simplest form, we will consider the most common accidents, viz.:

Before going into each of these conditions, we will consider the general treatment to be given in all accidents.

The most serious condition with which the surgeon has to combat, upon arrival at the majority of cases, is shock.

This is a condition characterized by weak pulse, shallow or irregular breathing, blanched skin, patient complains of not being able to see; in fact to the ordinary observer it is a condition of extreme weakness, and usually follows the accident after the first half hour, the time varying according to the seriousness of the accident. The causes are: Hemorrhage, exposure to cold following the accident, pain, together with the nervous collapse following the general insult to the tissue.

Therefore, the two main things for the first aid party to do, is to stop all hemorrhage as soon as possible, and to make the patient as comfortable as can be under the conditions. He should be immediately placed in a recumbent position, a temporary dressing put on the wound, and covered with blankets.

I don't wish to convey the idea that the dressing to the wound is to be elaborate, but enough to give a sense of comfort to the patient, which goes a long way to ward off shock which will follow later.

Most of the dressings and appliances can be made from the ordinary articles of clothing, but all mines should be provided with an emergency box. This box should be japanned tin securely fastened, but not locked, and with a handle. Its size can vary according to the number of men employed in the mine. It should contain one dozen 2-in. gauze bandages; a dozen yard packages of sterilized gauze; several yard packages of lint, and several 2-ounce packages of absorbent cotton. The reason I designate the size of the packages is, that when once opened, they become dirty and not fit to be used again. With these dressings, I would have a box of carbolized vaseline and a small botle of aromatic spirits of ammonia plainly labeled and with directions; also several strips of muslin a yard square. It should be kept in a dry place and known to all about the mine. Nothing should be removed from it without being immediately replaced. With it should be a small manual such as is published by manufacturers of dressings, and can be had for the asking. These little manuals contain a vast amount of information concerning the first aid to the injured. The reading of these by all about the mines should be encouraged by the foreman, so that in case of his absence there will be somebody that will know how to proceed.

With this box, nearly every attention that is necessary, can be given until a surgeon arrives.

The first thing to do is to get the patient in a horizontal position. If the head is injured, have it slightly raised, using a coat or other article of clothing, for a pillow. Keep cool. Don't get excited, and don't excite the patient. The next thing to do, is to find out the extent and nature of the injury. In doing this, don't hesitate to cut the clothing. Never try to remove the clothing by pulling off over the head, or over a broken leg.

If an arm is injured, cut the sleeve up until you get above the injury.

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The same with a leg. If the injury is a simple fracture, that is, one where the skin is not broken, put the clothing back into position, make the limb as straight as possible, and apply a splint made of a piece of board, a piece of prop, or cap piece, and place alongside of the limb and tie it on with several handkerchiefs or with several turns of lamp wick; this will meet all requirements until patient is removed to his home.

If the limb is mangled and bleeding, put a tourniquet above wound. This may be made of one or two handkerchiefs folded diagonally, passed around the limb and loosely tied with a reef knot; then a stick passed through and used as a windlass handle, twisting the bandage tight enough to stop all bleeding; for the stick you can use a sprag or a piece split off a cap piece; secure the end of the stick by tying another handkerchief around it and the limb. If your emergency box is at hand, you can use the muslin pieces in place of the handkerchiefs.

Cover the mangled part with clean gauze from the box, over which place some cotton, then bandage, after which, you may apply a splint the same as in the simple fracture, and you are ready to move your man.

In cuts about the limbs where there is profuse bleeding but the bone is not broken, put on the tourniquet the same as with a mangled limb, dress the wound with gauze and cotton, bandaging tightly.

In small cuts where the bleeding does not come from a large vessel, an ordinary gauze and cotton dressing with tight bandaging, making pressure directly over the wound will stop the bleeding and meet all requirements.

If the injury consists of a cut about the body or head, cover with a clean piece of gauze and bandage tightly. The most handy appliance is one of the squares of muslin folded cornerways and tied over the dressing. If the bleeding is rather profuse, make pressure with your hand over the dressing that covers the wound, and in a few minutes you will have the hemorrhage controlled.

The next thing to look after is the general condition. If inclined to faint, lower the head, or rather raise his lower extremities and give him from one-half to one teaspoonful of the aromatic spirits of ammonia which is one of the promptest and safest stimulants we have.

Do not give whiskey or brandy except by direction of a physican.

If he vomits, do not raise him from the horizontal position, but turn his face to one side.

Here let me warn you against raising a patient to a sitting position if sick or faint. I have seen some of the most alarming conditions arise where some friend has persisted in raising and supporting the head of a fainting person. If the victim has a friend that must hold something, let him hold his feet.

I don't remember of ever seeing a fainting person revive until he had been placed in a horizontal position or with head lower than the body.

The next step is to get him out of the mine. Here is where many mistakes are made. The patient is generally loaded in an empty car and several are huddled around him and he in a half-sitting position, is brought outside. He who comes out in good condition is indeed lucky.

Every mine should have one or more cars built for no other purpose than to be used to get the injured outside. They should be long, low and flat, wide enough to place two stretchers on side by side, having spring supports for the stretchers. Such a car will save many a poor fellow's life and will get him in the hand of a surgeon in much better condition.

The stretcher should be light, but strong, and built to take up as little space as possible. A very practical one could be made of 1-inch gas pipe, making a frame 18 in. by 6 ft., in which a piece of canvas is laced with a clothes line. An inch space between the edge of the canvas and the side pieces would give the space necessary for the hands of the carriers.

No patient should be moved until he is placed on this stretcher unless it is impossible to get the stretcher to him. After he is on the stretcher, you can strap him to it and then it is an easy matter to carry him any distance by using relays.

By sending for the car as soon as the accident happens, you can have it near by the time you have him dressed, and if he has been properly taken care of, you need not hurry to get him out, and in that way avoid all unnecessary jolts, which have a tendency to increase shock.

We will now consider burns. It matters but little to the first aid about the different degrees of burns, as the first aid treatment for all is the same, viz.: remove all burned clothing and apply something to exclude the air. If any of the clothing sticks, don't pull it loose, but cut around it, leaving it for the surgeon to remove. After you have the clothing removed from the burned area, cover it with carbolized vaseline from the emergency box, over this lay your lint and bandage. If on the limb, with roller bandage. If on the body, use one or more of the muslin squares. Place him on the stretcher, cover him well, and remove to the outside.

Other dressings to burns which give great relief, are baking soda moistened and applied; also carron oil, which is made by mixing raw linseed oil and lime water half and half. With this you can saturate your lint and lay it on the burn, finishing your dressings, as I have described.

Keep a burn away from the heat, and in no case give whiskey, as it has a tendency to bring the blood out to the surface, and in this way increase the pain.

We will next consider what I believe to be the most important part of this subject: Electric shocks. With the advent of electric haulage, came a large death rate from this cause, which I believe can be greatly reduced if we can teach those in charge the proper way to handle them. A prominent electrical engineer made the statement to me, that as a rule, it showed gross negligence to have a death from shock of less than 600 volts. While I do not fully agree with him, I believe that the majority of the deaths from this cause can be avoided if proper restorative measures are used at once.

Ordinarily, if a man is knocked down by the wire, his companions look him over hurriedly, and if he is not breathing he is declared dead and hauled out of the mine. A physician is called, who, upon arrival, finds that the man is dead.

Generally speaking, you have no right to suppose that any man is dead who comes in contact with a wire, until some time has elapsed following the contact, or after all methods of resuscitation have failed. Because he does not breathe, is by no means a sure sign of death. Neither is a sure sign of death if you cannot hear his heart beat. His heart may be weak, and in the excitement, you do not hear it. I have had many cases reported to me "his heart was beating when I got to him, but it stopped shortly afterwards." That case could have been saved, but was allowed to die because his companions, or those in charge, had never

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been instructed in the work of resuscitation.

As I have intimated, the first thing you notice about a victim of the wire, is the fact that he is not breathing. Then it is your duty to make him breathe, and this, by artificial respiration. This is practically the same method that is used in the resuscitation of the drowned. The victim is placed on his back, a coat rolled up and placed under his shoulders in such a way that his head drops back, allowing the windpipe to take as straight a course as possible. One person stands by his side and with a handkerchief over his fingers, takes hold of his tongue and pulls it out of his mouth. Another one handles his arms. His position is at the head facing the victim, whose arms are seized about the elbows, and are pulled backward over his head, holding them for an instant. They are then swept outwards and forwards down across his breast. While his arms are being extended, his tongue should be gently pulled from his mouth, allowing it to drop back slightly when his arms are brought forward on his chest. These movements should be repeated about 20 or 30 times per minute and should not be stopped until the surgeon arrives. There are many cases where four hours of this work have been rewarded with success. If your efforts are unsuccessful, you can content yourself with knowing that you have done all you could, and you are not responsible for the result. This is something that I will ask you all to become acquainted with, as with the improved electric haulage, first aid to this class of accidents will be constantly demanded.

A FEW DONT'S.

Don't get excited.

Don't allow bystanders to crowd around.

Don't forget that the patient needs air.

Don't tell him how bad he is. You are not supposed to know.

Don't try to move him until you have all bleeding stopped unless you find you are not able to stop it.

Don't forget to summon a surgeon immediately, and tell him the nature of the accident so that he can come prepared.

Last, but not least, don't let this subject drop, but get what literature you can on it, and become acquainted with the details.

Remember that the fate of a large majority of accidents depends upon the first aid rendered.

ATLANTIC COAST GOSSIP.

Office of the MARINE REVIEW,
Room 1005, No. 90 West St.,
New York City.

The five-masted sailing ship Preussen arrived at Sandy Hook on Monday evening, coming to load 200,000 cases of oil for Japan. She is the largest and fastest vessel of her kind, having a cargo capacity of 8,000 tons and a displacement of 11,150 tons. Her total sail area is 60,000 square feet, and her crew consists of 58 men. The Preussen left Hamburg March 10, consigned to Funch, Edye & Co., New York.

A bill has been introduced by Senator Frye, of Maine, and Representative Greene, of Massachusetts, requiring that the hulls of sea-going barges of over 100 tons shall be inspected annually and that each barge shall be equipped with at least one lifeboat, one anchor, and a life preserver for every person on board. The bill also empowers the secretary of commerce and labor to regulate the length of such tows on coast waters.

Sixty large sea-going barges have been lost during the past two years, involving the deaths of 49 persons of the 192 on board. There are only about 450 such sea-going barges, and the exceptional mortality rate has led to the introduction of the bill.

The Saramacca, a new steamship built at Amsterdam for the Royal Dutch Steam Packet Co., arrived at New York on Monday from Amsterdam, Paramaribo and Trinidad. Her principal dimensions are: Length, 350 ft.; beam, 42 ft., and depth, 26 ft. She has a speed of about 14 knots, and accommodation for 58 first-class passengers.

The local inspectors appointed by the steamboat inspection service to investigate the grounding of the Coamo, of the Porto Rico line, at Jones' inlet, L. I., on March 2, have exonerated the officers of the vessel.

An amicable settlement of differences between the German and Italian lines in the New York-Mediterranean service is reported.

After providing for the usual depreciation and allocating $500,000 towards writing of the cost of new ships, the directors of the Cunard line, it is reported, recommend a dividend of 5 per cent, and that the company carry forward $545,000, as against $270,000 last year.

On April 22, the new Italian steamship Ancona, of the Societa di Navigazione a Vapore, will sail from Philadelphia for Naples and Genoa, inaugurating a new service from the port of Philadelphia to the Mediterranean ports. The Ancona is 500 ft. in length, 60 ft. beam, and of 14,000 tons. On her maiden voyage to New York she maintained a speed of from 15 to 16 knots, her indicated horsepower being 7,500. The propelling machinery consists of two sets of triple-expansion engines, supplied with steam from three double-ended boilers equipped with Howden's forced draught. The Ancona has been especially built for this service and has accommodation for 64 first-class passengers and 2,500 steerage.

The French steamer Breiz Huel was reported by wireless on Monday as in need of assistance, her bunkers being almost empty and rudder broken. Capt. Brunsma, of the Holland-American liner Statendam, reported that the Breiz Huel is in latitude 41 40 and longitude 61.08 and wanted to be towed into port. The Breiz Huel left Dunkirk March 13 for New York.

The schooner R. E. Thompson, which sailed from Baltimore on March 25 for Jamaica, has been totally wrecked on a reef off Anegada. Capt. Hardy, his family and crew have arrived at St Thomas.

The New Steamship Oklahoma, the largest bulk oil carrier ever built in this country, left the New York Ship Building Co.'s yard in Camden at the beginning of this week on her trial trip. The Oklahoma will carry 2,200,000 gallons of petroleum in bulk and is both a fuel, oil and coal burner. She has been chartered for four trips to Europe and will load immediately.

The Austro-American liner Carolina, while endeavoring to locate Fire Island light on her voyage to New York, ran ashore on the shelving bars off Blue Point station. She floated off apparently uninjured and unassisted. As she was docking she stuck in the mud for a couple of hours. The Carolina experienced very severe weather on the Atlantic.

The Pretoria, of the Hamburg-American line, Hamburg for New York, was compelled to put into Halifax to coal her bunkers, having met with extremely heavy weather which delayed the ship considerably. She resumed her voyage to New York on Monday.

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April 16, 1908.

THE OPEN SHOP.

Elsewhere in this issue will be found the declaration of the Lake Carriers' Association that the open shop policy will hereafter be maintained on the lakes. This declaration prompts some reflections of a retrospective character. To appreciate its full significance one must read the arguments that accompanied it. In doing so one cannot fail to perceive the wonderful change that has taken place on the great lakes in the past 20 years. It is a change for the better. It is doubtful if there exists anywhere in the world a class of labor so well treated as that which is employed aboard a lake freighter. It was not always so. A quarter of a century or more ago the business was conducted in a rough-and-ready way. There was no stability to it and might usually made right.

The new order of things has been of gradual development to which many forces have contributed. Each succeeding year has seen a gradual increase in comforts aboard ship and a gradual advance in wages, but above all and more than all this, there has developed a spirit of absolute fairness and a disposition to conduct the business with regard to the rights of every man. It was inevitable that these improvements should attract a better class of men to ships, and there is no gainsaying the fact that a better class of men has been attracted. A catalog of the conveniences afforded the deck hand of a lake steamer would make amazing reading for the master of a salt water tramp, for he would be impressed by the fact that the lake deck hands' quarters are equal to if not better than his own. So much for the disposition of the owner.

About 10 years ago a succession of wars in various parts of the world, notably the Spanish-American war, the South African war, the Japanese-Russian war, started the wheels of industry to replenish the inevitable wastage, the opening up of new territory and new fields for exploitation projected a period of industrial activity unparalleled in the history of the country. The lakes shared in that general activity, nay more, they served as the very fountain spring of activity elsewhere, as the iron trade is the most diversified of all trades and practically every pound of its raw material must first traverse the lakes before it enters into the various processes of manufacture. The growth of the lake trade during the past 10 years is more like a dream than a reality. It would be unbelievable were not the actual figures before us. Naturally with the absolute necessity confronting lake interests of getting the ore down or else paralyzing the industry of a whole nation, many encroachments upon prerogative were overlooked and even abuses tolerated. Men submit to tyranny from two causes only, either that they hold it their duty to submit or that they cannot escape from it.

Lake interests have never abandoned the principle of the open shop, though for the past few years it has not seemed expedient to enforce it. They have, however, felt the management of their property to be seriously handicapped by the closed shop. They have been subjected to annoyances, irritating in any business, and practically intolerable aboard ship. It is not to be supposed that the union itself would countenance the action of some of its members, but it obviously cannot remedy specific and individual instances or failure to perform services when such failure occurs in the open lake. Vessel owners are a unit in believing that the only practical way of managing their property is on the open shop principle. They don't care whether a man is a union man or not—they will feed him well, house him well, and pay him well. All that they ask in return is that he shall do a day's work and cheerfully obey the orders of his superior. Moreover, they are very strict in their orders to the executive officer that he shall treat his men with fairness. What more has any man a right to ask?

PIG IRON SITUATION.

Present conditions in the pig iron market are not satisfactory to sellers. At a meeting held in Birmingham, Ala., last week, at which four-fifths of the selling furnace capacity was represented, conditions were thoroughly discussed, but no conclusion was reached. Another meeting will be held in New York Thursday by both northern and southern producers, from which, it is hoped, harmonious relations will result. A significant fact is that a number of furnaces, whose owners have been selling pig iron at very low prices, have been blown out within a few days. The most important inquiry for pig iron now pending is for 12,000 tons from an interest which sells largely to railroad companies.

While there is increased activity in some lines, rail mills and other plants are not turning out such large tonnages as they did a month ago, and the percentage of plants in operation has probably been reduced. Some makers of finished products, whose prices have declined, are protesting against prevailing crude steel quotations. Some fair tonnages of structural material have been placed in Chicago, and the prices ruled low. The sheet and tin plate business is well maintained, and large contracts for cotton ties have been placed within a

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week. Rail orders for the week are very light.

Only about 26 per cent of the ovens in the Connellsville region are now in operation, the product being at the lowest point of the year.

BULK FREIGHTER NETTLETON LAUNCHED.

The bulk freighter A. E. Nettleton, building for the Wilkinson Transportation Co., was launched from the Wyandotte yard of the American Ship Building Co. on Saturday last and was christened by Miss Alice Nettleton, of Syracuse. The Nettleton is 545 ft. over all, 525 ft. keel, 55 ft. beam and 31 ft. deep. She has 32 hatches, spaced 12 ft. centers. Her engines are triple-expansion with cylinders 23½, 38 and 63-in. diameters by 42-in. stroke, supplied with steam from Scotch boilers, 14 ft. 6 in. by 11 ft. 6 in., equipped with Ellis & Eaves draft and allowed 180 lbs. pressure. She will carry 10,000 gross tons of ore. The Nettleton will be sailed by Capt. Ralph Lyons, of Lorain.

This completes present orders for new construction at the Wyandotte yard. The ship yard force has been reduced to about 50 men, though normally 1,000 are employed.

AROUND THE GREAT LAKES.

The members of the Board of Commerce of Detroit visited the yard of the Great Lakes Engineering Works at Ecorse upon invitation on Wednesday last.

At a meeting of the directors of the Ashtabula Steamship Co. on Saturday last, G. A. Gaston, of Cleveland, was elected president to succeed the late E. S. Hanry. O. J. Topky was added to the board of directors.

It was the original intention of the line managers to open the package freight season on April 10, but the opening has now been postponed until April 25. Announcement to this effect has been sent out by the Anchor line. It will, therefore, be May 1 before the first line boats reach Duluth. Grain boats, therefore, that have been chartered to leave the head of the lakes 10 days after the arrival of the first boat from the lower lakes will not have to leave until May 10.

The tugs Wm. Kennedy and T. C. Lutz towed the steamer Wm. E. Reis from Detroit to Lorain this week. The Reis will take on a cargo of coal. The tugs then left for Ashtabula to tow the steamer B. Lyman Smith from Ashtabula to Toledo for repairs.

The Detroit river will, in six weeks, present its customary appearance during the season of navigation. All shore lights along the Canadian side of the lower Detroit river are now burning, including the Duff & Gatfield range lights, the Hackett range lights and the lights at Colchester reef. Early next week the spars and buoys, including the gas buoys, will be placed in position at the Lime Kiln crossing. The lighthouse tender Marigold is now busy attending to the lights above Detroit.

THE NETTLETON LAUNCHING PARTY AT THE WYANDOTTE YARD OF THE AMERICAN SHIP BUILDING CO.

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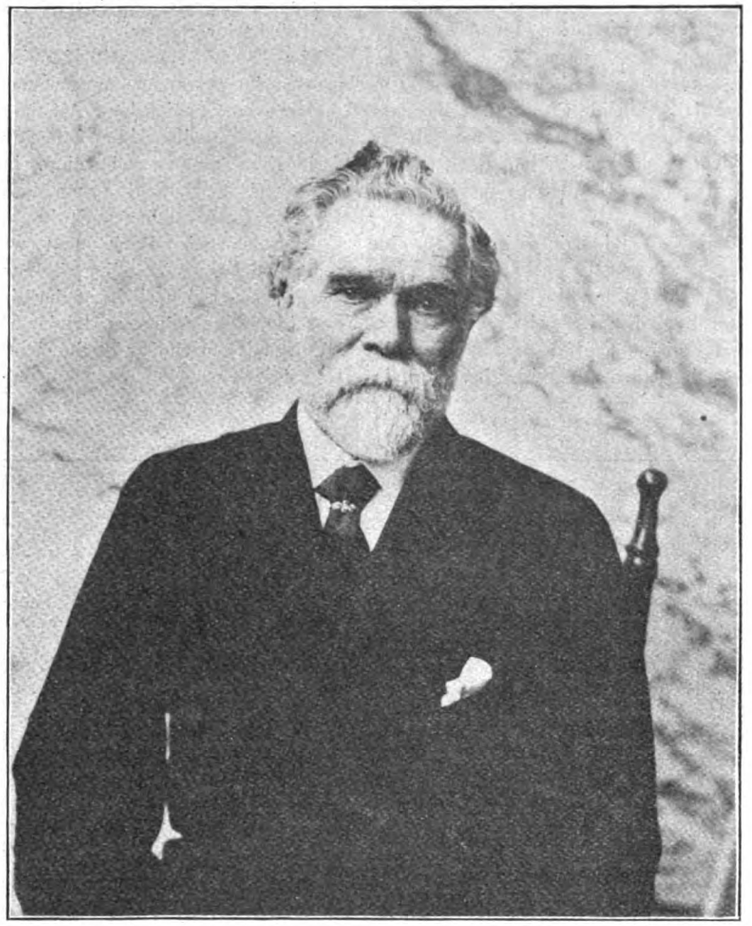
OPEN SHOP ON THE LAKES

At a general meeting of the Lake Carriers' Association, held at the Colonial hotel, Cleveland, on Thursday last, the open shop policy was uncompromisingly declared for. Ninety-one per cent of the tonnage controlled by the association was represented and the action was unanimous. Practically every member present spoke. J. H. Sheadle, vice president of the association, detailed present conditions forcefully. From what he related it was clear that individual members of the unions had, under cover of the union, abused their privileges aboard ship and had even declined to perform their customary work. Obviously such a condition is intolerable. As stated, practically every member spoke, Harry Coulby, president and general manager of the Pittsburgh Steamship Co., closing the discussion with unanswerable arguments in favor of an open shop policy. The following resolutions were thereupon unanimously adopted:



PRESIDENT WILLIAM LIVINGSTONE.
(From a photograph taken at the Colonial Hotel last week.)

"The experience of the ship owners, managers and licensed officers for the past years has demonstrated the necessity of what is referred to as the open shop principle, in order to give that control and direction of the ships which is required for the equal good of the owner, the employe of the ships and the dependent trade. And so it is resolved:

"1. That the owners of ships on the great lakes do now declare that the open shop principle be adopted and adhered to on our ships.

"2. That the Lake Carriers' Association stands for the foregoing principle.

"3. That the matter be referred to the executive committee, with full power to act and carry out this principle.

"4. That it should be the aim of the committee in the means they shall adopt, recognize a fair and equitable rate of wages, to insist on such regulations as shall promote the comfort and well being of the employes, shall put the discipline of the ship in the hands of her executive officers and tendering liberal appropriate wages and conditions, requiring in response appropriate, diligent and prompt service from the members of the crew.

"5. And at this meeting, representing 91 per cent of the tonnage of the association, as a definite and specific support to the committee, it is voted to adhere to and observe this action referring also any and all special cases to the committee."

No action was taken at the meeting upon any other subject. The spirit prevailing at the meeting was one of absolute fairness to everyone concerned. There is no intention to alter wage schedules or to impose onerous conditions upon the men. The owners are willing to pay last year's rate of wages, which is the highest that has ever been paid on the lakes. Their only contention is that they shall manage their own property. What the owners resented was the direct interference with the management of the ship by the unions. In some cases this interference has been carried to an unsupportable degree, though it must be admitted that the action of the offenders would not be countenanced by the union were it cognizant of it. Vesselmen, however, were forced to the conclusion that the only practical way of operating their property was by the permanent abolition of the closed shop.

It now remains to be seen how the matter will work out. From present indications no trouble is anticipated. Prior to the declaration of the Lake Carriers' Association Mr. Coulby had met with the engineers of the Pittsburgh Steamship Co.'s fleet and had persuaded them to accept positions aboard his ships as individuals and not as members of the Marine Engineers' Beneficial Association. Exactly what Mr. Coulby said to his men is not known, but the outcome of it was that they all signed individual contracts for the season of 1908. The Marine Engineers' Beneficial Association was not slow to take action upon this move, and it was at first reported that charges would be preferred against the engineers of the Pittsburgh Steamship Co. for violating the rules of the association. Several meetings have been held since by the association, but nothing definite has resulted. Of course, the engineers of the Pittsburgh Co. constitute a large element in the

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THE LAKE CARRIERS' ASSOCIATION IN SESSION AT THE COLONIAL HOTEL, CLEVELAND.

association, and they feel that they have acted quite within their rights as association members, while at the same time they have as individuals been able to make better terms for themselves than the association could make for them.

It was also announced that the Seamen's Union, controlling the wheelsmen, watchmen and deck hands, would declare a strike, but wiser counsels apparently prevailed, as this statement was later recalled. As far as can now be seen, no trouble is anticipated. The Lake Carriers' Association will hold no conferences whatever with labor organizations controlling the various departments of the ship but will sign individual contracts with the men and have no doubt whatever of getting all the men that they require when it becomes necessary to place the boats in commission. In point of fact, this is an off season, and any resistance would fall of its own weight. As far as consumption is concerned, it is not absolutely necessary that a pound of ore be moved this year. The report that the closed shop may be demanded by the unions during the height of the season when all the boats are in commission is regarded complacently by owners and shippers alike. As a last resort the ships could go to the dock without a sensible disturbance of industrial conditions generally, but as a matter of fact owners feel that they will experience no trouble in keeping such boats in commission as may be necessary to care for the trade.

Nearly all of the leading companies have closed with their engineers and are proceeding slowly towards a general start, which, however, will not be until quite late, probably June 1.

AROUND THE GREAT LAKES.

The new steamer John McGean, of the Hutchinson fleet, is taking on a cargo of coal at the Ellsworth dock at Cleveland.

Frank Horrigan has been appointed manager of the Lake Erie Excursion Co. Frank W. Green has been appointed excursion agent of the line.

The Mackinaw division of the D. & C. line will open navigation on April 20.

The tug Abner C. Harding, of the Great Lakes Towing Co.'s fleet, and the wrecking lighter Newman have gone into commission at Port Huron for the season. The wrecker Favorite is fitting out at that port.

The harbor commission of Chicago has appointed George C. Sykes and Prof. Paul Goode to aid in making recommendations for a new harbor. Prof. Goode is connected with the University of Chicago as a teacher of commercial geography and will make a special report to the commission on the commercial advantages obtained by modern harbor improvements in the principal ports of Europe and the United States. The commission has decided to personally explore the Chicago and Calumet rivers and judge for itself the advantages or disadvantages of each for an inland harbor.

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FOR THE LAKE MARINE

In this department hereafter will be found everything of current interest pertaining to Lake Navigation. Masters are advised to consult it weekly for information of interest to them; and owners are invited to use it freely for the promulgation of all announcements of a general nature. The Marine Review will be placed aboard every vessel having membership in the Lake Carriers' Association, representing a registered tonnage of nearly 2,000,000 tons, and can, therefore, be depended upon as a reliable courier to the entire fleet. It will reach every vessel in active service weekly. It is the intention to make this department complete so that at the end of the year it will be an authentic record which should prove of permanent and increasing value to owners and masters alike.

A general meeting of vessel owners, shippers and masters was held in the rooms of the Cleveland lodge of the Ship Masters' Association on Friday last. The purpose of this meeting was to discuss the new order of things which has been projected on the lakes by the Lake Carriers' Association, and it may safely be said that it was the consensus of opinion that the Lake Carriers' Association in declaring for the open shop had adopted a policy of the highest practical wisdom. Harry Coulby, president and general manager of the Pittsburgh Steamship Co., especially, distinguished himself by his admirable presentation of the case. No man could listen to him and not be convinced of the absolute desire of the owners to deal fairly with their men. No man has a right to ask for more than fair treatment; nor should any man be satisfied with less.

Secretary J. A. Holmes, of the Cleveland lodge, called the meeting to order. It was the first time that owners had had an opportunity to inspect the new quarters, and Capt. Holmes turned the keys of the rooms over to Harvey D. Goulder and appointed him chairman of the meeting.

Mr. Goulder emphasized the fact that there cannot be any division, any parting of the ways, between owner and master. There must be reciprocal trust and honor between them. This communion between owner and master might be put upon the ground of self-interest, because in this world nothing much is accomplished without a selfish interest somewhere. He referred to lake tonnage as embracing one-third of all the internal and external tonnage of the United States that flies the American flag. Referring to the open shop he said that while business conditions had circumscribed its enforcement during the past few years the principle had never been abandoned.

"We don't want to go back," said Mr. Goulder, "to the old days of oppression. We want to provide the best quarters, the best food, the best wages, but let the executive officers of the ship manage her after she leaves the dock. The brunt of the struggle will be on the executive officer of the ship, but the owner will stand back of you. Let us approach the situation with firmness and wisdom and not do a single thing that a just, honest and upright man should be ashamed of."

President Wm. Livingstone, of the Lake Carriers' Association, said that there was no closer relationship in commercial life than that which existed between the master of a vessel and its owner. He congratulated the masters on the close relationship which they enjoyed with their owners. The masters are the men behind the gun and they are the best judges of what is required to make navigation safe. He begged that they would always have a pencil in hand to note down anything that would be an aid to navigation and to forward it to him for presentation later to congress.

Arthur Hawgood made a brief speech urging the consolidation of the interests of master and owner.

Capt. Samuel Allen said that masters welcomed the open shop with open arms, and asked that the subject be generally discussed.

Mr. Goulder then called upon Capt. Matthew Mulholland, but the captain could not be prevailed upon to speak, saying dryly that he had observed in the old days when sweating the main topsail that the fellow that "hollered most did the least work."

Mr. Goulder then introduced Harry Coulby, who smilingly admitted that he probably did "holler" more than he worked and then proceeded to make one of the best speeches ever made by an employer to the employe. He related that when the shipmasters removed into their old quarters on Water street he undertook to solicit funds for a library for the lodge rooms. He said that he had never forgotten a remark that one of the owners made to him in declining a subscription, "I don't think we ought to let the captains know too much." He said that remark set him thinking and he hoped that that owner, now gone to his long home, was wiser than when he was on earth.

Mr. Coulby frankly admitted that he had longed for many years for a closer understanding between masters and owners. It was his first visit to the new quarters and surveying the equipment he regretted the absence of James C. Wallace, who had fitted them out personally because it proved the old saying that a man always does a better job for love than for money. "There is a thought," said he, "that I desire that you keep uppermost in your minds at all times. We have put a new range on the lakes for your guidance. The lower light, which might be called the floating light, is the commercial one. It is the wage light and it will fluctuate, like a floating light, according to the conditions surrounding it. The upper light stands for fair, honest treatment as man to man. When in the pilot house you tell your wheelsman to steady her on the range, I want you at the same time to think whether you are steadying your mind on this new range, and whether you are doing your duty to the poor deck-hand, the fireman and the coal passer. We want fair treatment for every man on the ship and we want you to see that every one gets it. The responsibility for the selection of the crew is restored to the captain. The open shop means merely this. We don't care what society, what church, or organization a man belongs to. What we are trying to do is simply to get back to the old conditions aboard ship. We don't want any members of the crew to see if it is in the Red Book before they undertake to do it. You masters have got to go on the picket line; you've got to win this fight for us. For my own company, I can say that we are going to win if it takes one day, one month, one year or five years. If any man pulls a book of rules on you, he is not an open shop man. He is a closed shop man. Put him on the dock. If any engineer, first, second or third, wheelsman, watchman, mate, declines to obey orders, put him on the dock. We will help you fill their places. We will get along somehow. Now, gentlemen, this is the first time that I have met with you, but it won't be the last."

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J. H. Sheadle, vice president of the Lake Carriers' Association, said that he had been connected with the lake trade for 20 years. The part of the work that he liked best of all was the personal relation with his own masters. He thought they were the best friends he had and he regretted that he did not know all of the masters as well as he knew his own.

Capt. John Lowe, who has sailed since a boy of 10, saying that the liberty of the sea was something that a landsman could never understand, declared that the open shop had come to stay and that it would be a step backward to ever return to a closed one.

E. C. Collins, traffic manager of the Pittsburgh Steamship Co., said that the tendency of the age was to get closer together, and he welcomed a more compact working relationship between master and owner. Brief speeches were made by Capt. Fred Bailey, Capt. W. D. Ames, Capt. Thomas Wilford, Capt. Thomas Baggs, Capt. C. H. Woodford, Capt. George Stevenson and George V. Callahan.

Mr. Goulder read the resolutions as adopted by the Lake Carriers' Association at their meeting on Thursday and they were cordially approved.

PACKAGE FREIGHT LINE.

Buffalo, April 14.—The package-freight lines are preparing to sail as usual late this month, but it seems to be a good deal of a bluff all round, for it is confessed frankly that there is scarcely more business in sight than is the case with the ore carriers. Still there is a showing of cheerfulness in the line offices, for after one of the managers had said that the lakes were a thing of the past he made a correction by adding that there would be business again sometime. Still it must be admitted that outside of ore, which the lake route still claims for its own, there is not very much left that can be called exclusively the business of the lake fleet to carry. It may be said of course that this has been much the case all along and that it is the marvelous increase of the traffic as a whole that has saved the lake trade from being absorbed by the rail lines.

A lake manager, after confessing that such is the case, was good enough to add that he did not understand why the rail lines were willing to work against themselves by constantly cutting into the lake trade. For a long time there had not been a neat bunch of business of any sort handled by the lake route but there was a railroad manager somewhere to get his eye on it and make a bid for it, even if it was his own lake line that handled it mostly. For instance the flour trade from Missouri river points, which once grew so fast that it helped out the lake lines nicely, was now being diverted to Gulf ports and may be claimed by the rail lines in that territory altogether before long.

There is not as yet much lost to the rail lines from Lake Superior ports, but the Minneapolis millers are going over to all-rail business one after another, and would no doubt all go after awhile, but for the fact that heavy traffic, such as was the rule for a long time till last winter, or heavy snows through the winter, often make that long haul a very uncertain factor and should invite the flour shippers to get as much of their product east as possible before winter. There are vast changes going on all the time the country over and none of them seems greater than the course taken by certain commodities such, for instance as flour. A miller who has Minneapolis interests states that not so very long ago more than 90 per cent of the output of the Minneapolis mills was shipped east of a line running north and south through Chicago, while the amount now is less than 50 per cent of the entire output. These changes not only affect the carrying routes very vitally, but they are still as great as ever. If the west and south continue to grow there will be other demands from those directions to be met.

There is some effort to readjust the lake business by a return to the old differential of 3 cents between the all rail and the lake and rail routes and it is charged that the Minneapolis millers are trying to cut out their lake business in order to enforce a return to the 3-cent advantage, but the trunk lines manage to prevent it and it seems that the lines this way from the west and northwest will hold to that policy even if they know it causes a great amount of flour to escape down to the Gulf. Then there is the storage and handling charge that has been a sore place in the lake flour trade ever since the interstate commerce commission imposed it here. Some of the big Minneapolis millers never took kindly to the route after that.

Still the lake lines are growing, even if it does not look as if more than half the steamers would be used this season. The Western Transit line did not use some of its boats to any extent last season and yet it has two new steamers, the Burlington and the Bennington, ready to go into commission in a few days. They will trade to Ogdensburg and will carry 2,200 tons of 14 ft. draught, being 257 ft. long and 43 ft. beam. The Anchor line has chartered the Lackawanna and the Scranton and the Mutual line has taken the Gould and the Reynolds of the old Wabash line, so it seems to be the idea that there will be business sometime, though it is now said that the westbound freight offering is a mere nothing, when it ought to be heavy.

Freight solicitors say that there is very little real stir yet that looks like a return of the business of late years. It is a fact that the stage of fright is over, but that has been followed by indifference. Manufacturers and jobbers say that they can sell goods, but they cannot get their pay for them and it may be as well to keep them awhile till there is a real live demand. It seems that the panic wave, which subsided in the east a long time ago, is still in effect more or less from the interior of the country westward to the Pacific coast. Money is plenty here, but it is far from being plenty in the west. So we shall have to wait. Maybe it will be well to take a few long breaths.

The lake lines do not seem to have made any move to utilize the barge canal across this state, though they will no doubt put fleets on it, even if they have not forgotten that they could do nothing with the old steel packet boats of a quarter of a century ago. When the canal is finished there will have to be a new struggle between the rail and the water routes and a new adjustment of rates.

JOHN W. CHAMBERLAIN.

The Empire Ship Building Co., Buffalo, will begin work in the near future on the new sand suction steamer ordered by the Builders' Supply & Sand Co. of Erie. The steamer will be built of steel and will be 135 ft. over all, 32 ft. beam and 7 ft. 6 in. deep. The hull will be divided by six transverse watertight bulkheads and three longitudinal bulkheads. The pumps will be supplied by the Erie Pump & Engine Co., Erie, Pa.

The labor organizations of Vallejo, representing practically the entire force in the navy yard, are urging the government to construct another vessel at Mare Island.

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PRIZE WINNING ESSAYS

The Third Prize Essay in the Competitive Contest Originated by the Merchant Marine League of the United States.

In the competitive contest among college students for the best essay upon the upbuilding of the merchant marine of the United States in the foreign trade, projected by the Merchant Marine League of the United States, the third prize was awarded to J. G. Honnold, a student at the University of Minnesota. Concerning this essay the judges wrote:

"He looks largely at causes and effects and the essay possesses unusual comprehension of vision. American shipping has been neglected through the absorption of her people in internal improvements. In the sharp commercial rivalry between nations the country is now beginning to feel the effect of that neglect. A careful reading of history must convince the candid mind that those nations which have taken a substantial part in the world's carrying trade have built their own ships. He believes ship building to be a necessary adjunct to ship owning and operating, but says that it is fairly well established that the present tariff restrictions are largely responsible for the high cost of ship construction in the United States. He discusses with great intelligence the artificial aids used by various nations, such as subsidies, subventions, bounties, discriminating duties, and free pilotage. He points out deficiencies in each and then proceeds to discuss the advantages of partial application of discriminating duties. It is upon the skill with which he argues the subject that I would base the prize. He advances objections and meets them in a manner to make even the opponents of discriminating duties think. It is the one paper in the whole collection which makes one think that the idea of a discriminating duty is not as impractical as many people believe, and for that reason has distinct value."

J. G. Honnold was born on Oct. 20, 1880, on a farm in Plymouth county, Iowa, and about 17 miles northwest of LeMars, the county seat town. The beginning of his education he obtained from a county district school and the home tutoring of his mother. At the age of eight years his parents moved to LeMars where he entered the B class, sixth grade, graduating four years later. He entered high school in the fall of 1893, but was prevented from graduating in 1897 by severe illness. He spent the year of 1898 in the Northwest Commercial College of LeMars, returning later to the high school and graduating in 1899. The next two years were spent in teaching a district school. In 1901 he entered the State University of Iowa, taking the philosophical course. The next year he entered the sophomore class in Iowa College, and devoted himself to the study of languages. During the two succeeding years his time was employed as principal of the public schools of Hospers, Sioux county, Iowa. In 1905 he again resumed his collegiate training by entering the University of Minnesota from which he graduated in June, 1907. The courses pursued in the university were elementary and advanced economics, modern industrial legislation, American and comparative government, theory of the state, history of the English judicial system, modern European history and the history of American diplomacy. This period of two years also taught him in the different departments much concerning the methods involved in the work of original investigation, and it was through personal contact with such men as Dr. Frank L. McVey, at that time head of the department of economics but at present chairman of the Minnesota tax commission, that the inspiration for attempting an essay for the Merchant Marine League was received. Mr. Honnold is at present principal of schools in Hendricks, Minn.

HOW TO BUILD UP OUR SHIPPING IN THE FOREIGN TRADE.

BY J. G. HONNOLD.

Broadly speaking, it may be said that, up to the close of the Spanish-American war of 1898, the United States was not a competitor for position among the great nations of the earth. Her time and energy were largely spent in developing her vast natural resources and building up her internal industries. After the Treaty of Paris, however, she found that her interests had suddenly become world-wide, and that she was fairly launched upon the ocean of international diplomacy.

But, during the period of her development in this comparatively isolated state, it now appears that one industry and, indeed, the one whose want is becoming most felt in her new position, has been sadly neglected. Again, the completion of the nation's modern industrial organization within the past decade[1] has further accentuated this cosmopolitan movement, and our merchants are now striving to place their goods upon foreign markets in competition with English and with German merchants.

This sharp commercial rivalry between nations requires that the successful ones put forth their utmost efforts in every direction, in order to insure success. As the merchant in a modern city, who does not take advantage of every improvement possible in his line, may finally be "crowded to the wall," so the present-day nation which does not utilize the means for progress which are at hand may lose her vantage-ground and, eventually, her position as a factor in civilization.

As already intimated, internal industries in the United States have been highly developed in wealth and organization to the neglect and, possibly, to some degree, at the expense of the shipping industry. Although there lies considerable controversy as to whether ship building is a necessary adjunct to ship owning and operating, and, while the "free ships" principle has, it is true, added many inferior hulls to Norway's registry, yet, a careful reading of history must convince the candid mind that those nations which have taken a substantial part in the world's carrying trade also built their own ships.[2] In our present situation it is difficult to find a concrete case wherein a foreign-built ship, owned by citizens of

For notes, see Appendix, p. 30.

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this country, would, if our laws permitted, be transferred to United States registry.[3]

The handicaps upon American ship building, apparently, are higher wages, greater cost of material, and lack of demand. The latter handicap will be removed as soon as the foreign carrying trade in American bottoms is placed upon a paying basis; while the first may, in some degree,

MR. J. G. HONNOLD.

be compensated by the present[4] as well as the increasing skill which practice in the trade would develop in the American workman, and, by the use of standardization[5] which would accompany the growth of the industry. As to the second handicap, it seems to be fairly well established by the evidence obtainable that present tariff restrictions in this country are largely responsible for the higher cost of materials which go to make up a ship.[6] In this connection it may be remarked that a growing solicitation[7] regarding the future exhaustion of our forests and iron mines may awaken us to the principle that a tariff upon the products of any natural resource is uneconomical in that it tends to rapidly deplete a supply which is difficult or impossible of renewal. Germany is a concrete example of how a free trade policy regarding such products may be expected to act. Since the removal of her tariff upon steel she has built up her own steel industries[8] so that now she makes the best quality of goods out of comparatively poor grades of ore.[9]

Much fear has been expressed that a discriminative system would bring upon us retaliation by foreign countries. While it must be admitted that such a method, by the necessary mode of its application, is especially apt to provoke return thrusts, yet, cannot the same objection be urged against any plan which succeeds in displacing any considerable number of foreign ships upon the ocean? It may not be expedient, and certainly is not necessary, that we use the same means which other nations employ to acquire advantage in the modern international war of commerce and trade. The preponderence of evidence inclines to the belief that European nations are dependent upon us for raw materials and food-stuffs;[10] but, even admitting this conclusion to be insufficiently established, the fact that, with a large merchant marine exposed to injury, they do not generally exercise this system against us, but seek, rather, to employ other

DISPLACEMENT OF FLOATING BODIES.

The law of flotation is: A floating body will sink in a liquid until it displaces a weight of the liquid equal to its own weight.

A floating body is only partly immersed, and the volume of liquid displaced by it is only a fraction of its own volume.

The distinction between floating bodies and bodies that will not float is this: A floating body will displace its own weight and a sinking body displaces its own volume, which is only a fraction of its own weight.

An earthen jar or stone crock (cylindrical in shape), has an outside diameter of 6.75 in., and an outside altitude, or height, of 5 in. Its weight in air is 3 lbs. At what depth will this crock float in water when perfectly upright; that is, how many inches and fractions of an inch will the crock draw in water, and how much more weight will take to sink it; or how much more weight will it be able to hold up before sinking?

Explanation:—Since the weight of the crock is 3 lbs. the water displaced by it will also be 3 lbs. Now, if the crock displaces its own weight, the "hole-in-the-water" filled by the crock will be equal to the number of cubic inches in the number of pounds represented by either the weight of the crock or that of the displaced water, which, of course, are the same.

A gallon of water contains 231 cu. in., weighing 8.33 lbs.; therefore, a quart will contain 57¾ cu. in. with a weight of 2.08 lbs., and a pint 28⅞ cu. in., with a weight of 1.04 lbs. Since 1 lb. of water is equal to about 1 pint, containing 28⅞ cu. in., 3 lbs. will be equal to 86⅝ cu. in. of its volume. Therefore, if 3 lbs. of water occupies a space of 86.625 cu. in., the displaced water must equal the same thing. It is evident from this that the crock will immerse 86⅝ cu. in. of its volume. The base or bottom of the crock has an area of 36 sq. in., being 6.75 in. in diameter, giving a circumference of 21.2 in. 1.69 (¼ diameter) multiplied by circumference equals area. A cubic inch of water weighs 0.57 oz., which is equal to saying that the upward pressure of a cubic inch of water is equal to 0.57 oz. Therefore, the upper pressure or buoyancy of the water itself, on the bottom of the crock and for 1 in. up its side (cubic inches) will be $36 \times 0.57 = 20.52$ ozs. The whole weight of the crock is 48 ozs., therefore, 36 cu. in. of the water holds up 20.5 ozs. of the 48 ozs.; another 36 cu. in., or 1 in. of depth, will equal 41 ozs. of the 48 ozs. There are now 7 ozs. left, and since 20.5 ozs. equals 1 in. of depth,

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methods, should lead us to suspect that their fear of retaliation is greatly in excess of ours.

The chief artificial aids[11] to shipping which have, at various times, been used by nations are: (1) Subsidies, subventions, and bounties; (2) Discrimination; (3) Regulation of the triangular trade; (4) Ship building premiums; and, (5) Free pilotage.

It is plain that all of these methods exert equivalent effects upon national finances in that they either require money to be paid out of the treasury or divert funds which would otherwise flow into it.

The last-named aid may well be used as auxiliary to any more comprehensive plan, but it is not of sufficient significance to be considered by itself. Number four is an indirect and also inefficient means, as is attested by the experience of Italy and Spain. Like "free ships," it does not solve the problems encountered in operating.[12]

In regard to number one, the granting of subsidies and subventions or payment of wholesale bounties should, in view of the effect such a course has had upon the treasury and business morals of France,[13] be indulged in with extreme precaution. A fast, safe, and comfortable service betwen ports increases expense enormously[14] and requires governmental aid. Undoubtedly, we are in need of a like service along the ten routes set forth in the report of the Merchant Marine Commission,[15] and it would be well to establish, under careful restrictions, subsidized lines as there indicated. But, it should be realized that this program, inaugurated primarily for the benefit of the post office and navy departments, can benefit the shipping industry in general only indirectly, and that largely through its encouragement to ship building.

In modern times, the regulation of the triangular, or indirect trade, has generally taken the form of discrimination, so, for our purpose, we may consider number three of the above enumerated artificial aids as a division of number two. The remaining method, then, to be considered is discrimination, and the various forms which it may assume.

Discrimination may apply to the gross or to the net tonnage of vessels, to the duties upon imports, to the government inspection of ships, to harbor and light dues, or to rates of underwriting.

Under certain circumstances, the last three forms may, like free pilotage, be made useful as auxiliaries, but can furnish no basis for a comprehensive system.

At this point it may be well to call attention to the fact that any plan based upon discrimination should provide for the free admission of all ship building material, and for the possible contingency of abrogating many or all of our commercial treaties. With these two thoughts in mind, let us proceed to consider the application and effects of discrimination.

Discrimination, either upon tonnage or in respect to duties, may be "general" or "limited." If "general," the discrimination is made against all vessels which enter our ports and are not of United States registry, or against those incoming vessels which clear from ports of countries other than their own or bring products of those countries whose flag they do not fly. The latter is virtually a regulation of the triangular trade.

Now, if the "general" plan were adopted, our ocean carriers would be aided in their competition with European vessels, and, with the necessary and consequential abrogation of disadvantageous[16] treaties, the way would be cleared for negotiating more equitable ones. But there are several disadvantages to be considered. Such a course would be the acme of provocation to retaliate, it would abolish the "free list" of non-competing foreign products of general consumption,[17] and it would raise the price of nearly all articles in this country except farm products.

On the other hand, if the "limited" plan were adopted, the only appreciable advantage would be to regulate the triangular trade. But there is a possibility of this advantage being off-set by the action of other countries, especially those of South America, in admitting European ships to registry. There are, too, the objections that the "free list" would be practically abolished, and that no aid would be afforded to our carriers in the competition with European nations.

But, again, let us consider a third plan—that of discriminating upon either the "dutiable" or upon the "free list." A discrimination upon the "free list" would abolish it, would not aid in competition with European

7 ozs. will equal 0.34 of an in., or in other words, the crock will draw 2 1-3 in. of water when it floats; or it immerses 86.625 cu. in. of its whole volume.

It may also be done this way: Since 36 cu. in. is equal to 1 in. of depth on the side of the crock, and we have figured that will immerse altogether 86.625 cu. in.; therefore, 86.625 divided by 36 equals 2.4 in. The volume of the crock is 180 cu. in. (6 × 6 × 5); or since the area of the bottom is 36 sq. in., and the altitude 5 in., the volume is the same thing as 5 × 36.

180 — 86.625 = 93.375 and 93.375 divided by 36 equals 2.59 + 2.41 = 5 in., the height of altitude or crock.

93.375 cu. in. divided by 28.875 cu. in. (cubic inches in pint) equals 3.23 pints, and since 1 pint is equal to 1.04 lbs., 3.23 pints equals 3.35 lbs., the weight that the jar will hold up before sinking. This is in addition to its own weight.

The displacement and floating power of all tanks, no matter what their shape may be, can be found in the matter already explained.

How much dead weight will 6 lbs. of good cork float in water?

Explanation:—It will displace 6 lbs. of water, and 6 lbs. of water is equal to a space of 173.25 cu. in. Since a cubic foot of cork weighs 15 lbs., 6 lbs. will equal 6-15 of a cubic foot, or 691 cu. in., (1,728 × 0.4). 691 — 173.25 = 517.75, the number of cubic inches of floating power left. 173.25 is contained in 517.75 three times, and three times 6 lbs. is 18 lbs., the number of pounds the cork will float besides its own weight.

Note.—It will hold up 18 lbs. if the weight is suspended from it in air; if hanging to it so as to be in the water, it will lose weight according to the bulk of water it displaces. If it were lead it would lose 1.5 lbs. from immersion; there are 44 cu. in. to 18 lbs. of lead. There are 709 lbs. to a cu. ft. of lead, equals 11,344 ozs., which, divided by 1,728, equals 6.5 ozs. to 1 cu. in. 18 lbs. equals 288 ozs. and this divided by 6.5 equals 44 cu. in., and 44 cu. in. of water will weigh 1.5 lbs.; hence, if a solid displaces this amount by its bulk, it must represent the loss of weight on account of being submerged.

TABLE OF CUBIC INCHES OF WATER AND THEIR WEIGHTS

Cubic Inches in 1 Gal.	Cubic Inches in 1 Qt.	Cubic Inches in 1 Pint.
231	57¾	28⅞
Lbs.	Lbs.	Lbs.
8.33	2.08	1.04

A cubic foot of water weighs 62.42 lbs. and is equal to 7½ gallons. A cubic inch of water weighs 0.58 oz.

DEFINITION OF DENSITY.

Density is the quality of a body which

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carriers, but would help to build up shipping with South America and the Orient. Discrimination upon the "dutiable list" would aid in competition with European carriers, but would not materially build up shipping with "free list" producing countries.

A review of the foregoing reasoning must convince us that no one method, of itself, will bring the most satisfactory results. However, a combination of two or more may evolve something desirable.

Because of their ability to aid competition with the great carrier nations of the world, either the plan of discrimination upon the "dutiable list" or, the plan of "general" discrimination appear to be the most promising as a working basis. Both would call for an abrogation of the most objectionable treaties, but the former would arouse the less hostility abroad and contribute to a less general rise of prices at home. But, discrimination upon the "dutiable list" could with difficulty be made sufficiently effective, unless combined with the plan of limited discrimination, and this would, in effect, abolish the "free list."

Such a course could hardly find justification in any quarter, for where non-competing products are involved, it is alike opposed to "free trade" doctrine and to the principle of "tariff for protection." However, there are favorable considerations to be derived. It would encourage trade with those countries to which our ships do not now ply. And this principle finds voice not only among prominent commercial men of this country,[18] but also in the ranks of both leading political parties.[19] Further, it would make a beginning along the line of least resistance, where momentum could be slowly gathered for embarkation upon other routes in the future.

The above opposing considerations having been suggested as of primal importance, it becomes necessary to effect some manner of compromise between them. From this view-point, it appears that all friction will be removed by preventing the elimination of the "free list." This may be accomplished paying to American vessels importing "free list" articles a small bounty out of the funds derived from discrimination upon the "dutiable list." This bounty may be made sufficient simply to prevent any rise in price of the commodities imported and may be graded according to the distance from which the articles come. A safeguard against the contingency of other nations of small merchant marines admitting European ships to registry may be provided by empowering the president to proclaim all such vessels, as they appear, subject to the discrimination established against the triangular trade.

Such a plan will tend to establish the new and desired regular trade routes, and yet allow the largest freedom without permitting a ship to roam over the ocean and return to the United States simply for the purpose of receiving a bounty.[20] Since this bounty is to be paid out of the fund derived from discrimination, the plan is seen to be self-adjusting, for, as trade in American bottoms increases, it will receive less aid.

Should the objection be urged against the plan here set forth that it disrupts tariff schedules and commercial treaties, it may be replied that any argument, as regards the former, will be swept away by the present agitation for tariff reform, and that answer has already been given to the latter, i. e., that many so-called reciprocity treaties do not reciprocate,[21] and, that no successful plan, we may be sure, will be acquiesced in by other nations. The coming process of tariff-schedule readjustment may very properly take cognizance of the need of offering some form of protection to the "infant industry" of shipping at the time it is withdrawing its support from those industries which have proven themselves able to successfully compete in the world's markets. But, on the other hand, it is not contemplated that the shipping industry be placed in a position of helpless dependence upon governmental protection. The purpose of the plan here suggested is simply to equalize conditions and to leave the outcome to American brain, energy, and individual initiative. No serious attempt has been made to deny that retaliation may take place, but merely to demonstrate that there is not so much reason for fear as is generally supposed. The point to be insisted upon is, that our present disadvantage, resulting from other nations' employment of artificial aids, demands of us the use of some form of retaliation and again, that, no matter what policy we may adopt, a counter move should be expected. We should, therefore, feel free to choose our own

depends upon the denseness, or close cohesion of its constituent particles. It is estimated by the proportion which the bulk bears to the weight. Thus, if there be two bodies of equal bulk, but of different weights, then the body of greater weight is of greater density. Or if two bodies be of equal bulk, but of different densities, then the body which is of greater density contains proportionally a greater quantity of matter. Or if two bodies contain the same quantity of matter, but one of different bulk, then the body which is of the less bulk is of greater density than the other. Thus the density is seen to be directly proportional to the quantity of matter, and indirectly proportional to the bulk.

A cubic foot of iron weighs 470 lbs., but a cubic foot of cork (the same bulk, mind you), only weighs 15 lbs.; therefore, iron is of greater density than cork, because for the same bulk it has greater weight.

WHAT IS SPECIFIC GRAVITY?

The term Specific Gravity is a veritable bugaboo to many people who have only studied physics (natural philosophy) in a casual way.

Specific gravity is the weight of a substance compared with a weight of an equal bulk of some other substance taken as a standard. For solids and liquids, distilled water is the standard.

To obtain the weight of a body compared with that of another body having the same magnitude, it is first weighed in air; that is, in our atmosphere, the same as the grocer weighs out sugar, etc. This gives its absolute weight. Next it is weighed in water (i. e., immersed in water) to show how much it loses in this element. There have now been ascertained the absolute weights of two bodies of equal bulk—viz., the one experimented on, and water, and the ratio of these weights is that also of their specific gravities.

When a solid is immersed in fluid it will displace exactly its own volume of the fluid; which is equal to the following statement: If the fluid displaced by the immersed solid be weighed its weight will be exactly that which the solid lost when weighed in the fluid from its absolute or natural weight; or the weight of the displaced water will equal the difference of its weight in air and the weight of the same body immersed.

If a solid loses weight when immersed in proportion to the weight of the fluid displaced, it is equal to this statement: A body is buoyed up by a force equal to the weight of the fuel that it displaces.

A cubic foot of water weighs 62.42 lbs., or about 1,000 ozs. avoirdupois. A cubic inch of water (62.42 ÷ 1,728)

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method regardless of the methods exercised elsewhere. But here no radical departure has been taken from our past foreign policy, except in the case of bounties, and even these may find precedent,[22] so that the least opposition will be encountered at home. Moreover, it being the natural right of two nations to control the direct trade between themselves,[23] and discrimination upon the "dutiable list" being merely a phase of the protective tariff which the maintenance of any system other than discrimination would render necessary, a minimum of foreign hostility should be aroused.

An apparent defect in the plan consists in its failure to insure a cargo to outgoing vessels. For this, a convenient remedy resides in a tonnage tax or discriminative harbor and light dues imposed upon foreign vessels. But the additional resentment to be thus incited is not demanded by the exigencies of the case. Knowing, as we do, that international trade is a gigantic barter,[24] and that, under a former system of discriminative import duties, exports in American bottoms nearly parallel imports in those bottoms,[25] we may feel assured that there will be outbound cargoes for which discrimination and bounty will enable our ship owners to bid.

While this paper has incidentally shown that a revival of our merchant marine may place an initial burden upon the nation as a whole, yet, it is hoped that the system here advocated will distribute that burden among our people as equitably as possible, and that it will, at the same time, afford a substantial beginning for the industry without imposing upon it conditions which would be detrimental to a steady, healthy growth.

APPENDIX.

Notes.

1. F. L. McVey, *Modern Industrialism* (N. Y., 1904), p. 67.
2. W. W. Bates, *American Marine* (Boston, 1897), pp. 47-49.
   W. S. Lindsay, *History of Merchant Shipping and Ancient Commerce* (London, 1874), Vol. I., pp. 7, 8, 19, 24, 72.
3. Report of the Merchant Marine Commission (1905), p. lxx ff.
4. Hearings before the American Merchant Marine Commission (1904), pp. 295, 815.
   Report of the American Merchant Marine Commission (1905), p. vii.
   Alfred Marshall, *Principles of Economics* (London, 1898), p. 632.
   F. W. Taussig, in Quart. Jour. of Econ. (Aug. 1906), p. 506.
   R. Meeker, History of Shipping Subsidies (In pub. of Amer. Econ. Ass'n, Aug., 1905), pp. 178, 179.
5. Hearings (1905), p. 582.
   J. W. Garner, 180 No. Amer. Rev., 363.
   R. Meeker, *op. cit.*, p. 180.
6. Hearings (1905), pp. 382, 565, 567, 812, 1542.
   J. W. Garner, 180 No. Amer. Rev., 363.
7. J. J. Hill, speech before the Chicago Commercial Association (In *Minneapolis Journal* of Oct. 7, 1906, Part I., p. 2).
8. Monthly Summary of Commerce and Finance of the U. S. (Sept., 1904), p. 867.
9. F. L. McVey, *op. cit.*, pp. 72-76.
10. F. W. Taussig, in *Quart. Jour. of Econ.* (Aug., 1906), pp. 515-516.
    F. Marsden Burnett, in *The Economic Review* (London, Oct. 15, 1906), p. 406, 11, 23-26.
    Hearings (1905), pp. 435, 1144, 1197, 1596, 1642, 1643.
    Wolf Von Schierbrand, *Germany* (1902), p. 199.
11. F. L. McVey, in *Jour. of Pol. Econ.* (June, 1906), p. 370 ff.
    Bates, *American Marine*, p. 428 ff.
12. W. W. Bates, *op. cit.*, p. 433; R. Meeker, *op. cit.*, pp. 103, 104.
13. J. W. Root, in 85 *Atlantic Monthly*, 394.
    Hadley, *Economics* (1903), p. 443.
    Hearings (1905), pp. 1176, 1294, 1495.
14. Lindsay, *op. cit.*, Vol. IV., p. 216.
15. Report (1905), p. xxv. ff.
16. Hearings (1905), pp. 557, 919.
    K. C. Babcock, *The Rise of American Nationality* (N. Y., 1906), pp. 260-261.
    Bates, *op. cit.*, p. 429, et seq.
    Convention with Great Britain to Regulate Commerce and Navigation. (Ratified Dec. 22, 1815), Art. II.
17. Report of the Commissioner of Navigation (Nov., 1904), H. Doc., 58th Cong., 3d session, Vol. 92, p. 687 ff.
    Hearings (1905), pp. 1780-1781.
18. Hearings (1905), p. 1519.
19. Senator Bacon, 40 *Cong. Rec.*, p. 1808.
    Senator Allison, 40 *Cong. Rec.*, p. 2488.
    Secretary Shaw, *Hearings* (1905), p. 1532.
20. Hearings (1905), p. 1495.
21. See Note No. 16 above.
22. Report of the American Merchant Marine Commission (1905), Appendix E.
    J. W. Garner, 180 No. Amer. Rev., 374.
23. Bates, 34 Arena, 365, 369.
    Garner, 180 No. Amer. Rev., 370.
24. J. S. Mill, *Prin. of Pol. Econ.*, Bk. III., Chap. XVIII., Secs. 1 and 6.
    Charles Gide, *Prin. of Pol. Econ.* (Trans. by E. P. Jacobsen, Bonar ed., 1892), p. 240.
25. Bates, American Marine (Boston, 1897), p. 429.

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weighs 0.58 ozs. Bar iron weighs 7.79 times as much as water; therefore, a cubic inch of bar iron will weigh 0.57 × 7.79 = 4.44 ozs. We now have two equal bulks with their comparative weights, or in other words, the specific gravity of each. Water is taken as 1, or unity, and iron 7.79 times that of water, or 7.79 units. Specific gravity is really the comparison of weights of substances of equal bulk with water taken as a standard.

The specific gravity of cork is 0.24 of that of water, or what is the same thing, if water is 100 cork will be 24.

What is the object of specific gravity is a question that will naturally suggest itself. It is this: Knowing the specific gravity of substances it is easy to determine the weight of any other substance of equal bulk. For example: A vessel with an internal capacity of 8 cu. ft., or what would be the same thing, a length, breadth and depth of 2 ft. each, will hold 499.36 lbs. (8 × 62.42 lbs.) of water (equals 59.83 gallons). This same vessel filled with alcohol, say, will weigh how much? The specific gravity of alcohol is 0.84; hence, its weight will be 0.84 × 499.36 = 419.4624, or a cubic foot of alcohol weighs 57.42 lbs.

If this same vessel were filled with lead instead of water, its weight would be 56667.736 lbs., a cubic foot of lead weighing 708.467 lbs. The weight of lead for the same bulk of water is 11.35 times the weight of water.

This same vessel filled with cork its weight would only be 0.24 of 449.36 lbs. or 119.8464 lbs., since an equal volume of cork weighs 0.76 per cent less than water.

Any substance whose density is greater than that of water, will sink in water.* This is true of all solids more dense than water. When a solid sinks in a fluid it will displace exactly its own volume of fluid. Therefore, a solid in water weighs less than when weighed in air, since the pressure or buoyancy of the water makes its weight less. When the weight of a body exceeds the buoyancy of water, or other liquid, the body will sink, but when the buoyancy exceeds the weight of the body, the body floats. When buoyancy and weight are equal the body is in equilibrium. The buoyancy of fresh water compared with the weight of a man's body is about equal; hence, the reason that a swimmer can float with but little effort. Sea water being more dense than fresh water the swimmer can keep afloat with still less effort.

*Sometimes a heavy substance is given such a shape that it displaces enough of a lighter fluid to float thereon. Thus, an iron kettle, or an iron ship, floats on water, although iron is much heavier than water. It is the side surface beyond the displacement mark, of the iron kettle, iron ship, and such other vessels built of heavy substances, that prevents the displaced water from pouring over the side walls of the vessel.

TO FIND THE SPECIFIC GRAVITY OF A SOLID HEAVIER THAN WATER.—First, find its weight in air; then find its weight when immersed in water; divide the weight in air by the loss of weight in water. Example: A piece of steel weighed 16.8 lbs. in air; in water it weighed 2 lbs. less, or 14.8 lbs., therefore:

Weight in air.....	16.8 lbs.
Weight in water.....	14.8 lbs.
Equal bulk of water, or loss of weight due to buoyancy.....	2.0 lbs.

2)16.8

8.4 specific gravity of steel; that is to say, for equal bulks, steel weighs 8.4 times more than water, or a cubic foot of water weighs 62.42 lbs. and a cubic foot of steel 524,328 lbs. (62.42 × 8.4).

The weight of a cubic foot of any solid or liquid, is equal to 62.42 lbs. avoirdupois multiplied by its density or specific gravity.

TO FIND THE DENSITY OR SPECIFIC GRAVITY OF A SOLID LIGHTER THAN WATER.—Fasten to it another body heavy enough to sink it in water. Find the loss of weight for

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the combined mass when weighed in the water. Do the same for the heavy mass. Subtract the loss of the heavy body from the loss of the combined mass. Divide the weight of the given body by this difference.

QUESTIONS FOR MASTERS AND MATES.—NO. 64.

822. What is refraction?

823. Define parallax.

824. What do you understand by semi-diameter?

825. What is a logarithm?

826. What is the log. sine of 30° 27′ 47″?

827. What is the log. cosecant of 110° 25′ 6″?

828. In latitude 20° 19′ the departure made good was 39 miles. What is the difference of longitude by parallel sailing?

829. In lat. 48° 39′ the dep. made good was 201.5 miles. What difference of long. was made?

830. Give the course and distance from a point in lat. 49° 14′ S, long. 46° 46′ W, to a point in lat. 41° 29′ S, long. 40° 49′ W.

831. What is the course and distance from lat. 33° 51′ S, long. 151° 20′ E, to lat. 55° 59′ S, long. 67° 12′ W? By Mercator sailing.

QUESTIONS FOR WHEELSMEN AND WATCHMEN.

444. Two steamers start from the same place and sail in opposite directions, one at 18 and the other at 15 miles per hour. How far were they apart in 39 hours?

445. Two ships are 7,483 miles apart and are sailing toward each other, one at the rate of 46 and the other at the rate of 53 miles a day. How far are they apart at the end of 73 days?

446. A ship is worth $85,000. A man owns 7/16 of it. If he sells 3/5 of his share, what is the value of the part of his share which is left?

447. A steamer steering east making 12 miles per hour, meets a steamer steering W making 8 miles per hour; they are 3 miles apart. In how many minutes will they meet?

448. If a steamer runs 49.5 miles in 8 hours, how many miles will she run in 24 hours at the same rate of speed?

449. If your boat runs from Chicago to Pt. Betsey, a distance of 203 miles, in 17 hrs. 39 min., how long will it take her at the same rate to run from Pt. Betsey to Waugoshance, a distance of 97 miles?

450. If your boat runs 3½ miles in 23 minutes, how fast is she running per hour?

451. If a boat steams 26½ miles in 2 hrs. 8 min. 30 sec., how fast is she running per hour and how long does it take her to make a mile?

452. A man owning 0.4725 of a ship sold 0.3 of his share. What part was left to him?

453. The distance round a circle is 3.1416 times the distance across it. If the distance across a circular race course is 1,710 feet, what is the distance around it?

ANSWERS TO QUESTIONS FOR WHEELSMEN AND WATCHMEN.

434. Answering a one blast signal with two blasts or a two blast signal with one blast.

435. Never, according to the Rules See Rule 27 of the Pilot Rules.

436. Four or more short and rapid blasts of the whistle.

437. Same thing as the danger signal.

438. Four long blasts of the whistle, the ensign inverted or any unusual and continuous noise. Any unusual display of lights.

439. One and two blasts of the whistle.

440. "I am directing my course to starboard."

441. Two blasts.

442. To starboard.

443. The green light.

POWDERED MILK ABOARD SHIP.

One of the problems aboard ship is the keeping of milk fresh and sweet. As the demand for it is constant a considerable stock must be put aboard when the ship leaves port, and notwithstanding the care with which it is handled, a fair part of it is frequently spoiled. During the past few weeks, the Ekenberg Milk Products Co., of Portland, N. Y., has endeavored to interest lake vessel'men in powdered milk, and have succeeded to the extent that several companies will use it during the coming season. The cost works out somewhat less than fresh milk, while the product seems to have all of the qualities of fresh milk with the added advantage of being chemically pure and perpetually sweet.

For many years scientists have endeavored to take the solids from milk leaving them as wholesome, digestible and as nutritious as when in the liquid state. It remained for Dr. Ekenberg, of Sweden, one of the highest authorities on milk products, to discover a perfect and practical method whereby a powder could be produced from milk by a purely mechanical process and without the use of any chemical. Judged by the results submitted to Cleveland vessel owners, he has succeeded in producing powdered milk, keeping in any climate under the same conditions as wheat flour, retaining the flavor, nutrition and health-giving properties of the natural milk. It can be restored to liquid form by adding to it the same amount of water as was originally taken from it. To make a glass of sweet, palatable milk, it is only necessary to put a spoonful of powder in a glass of water. Cream can be produced by lessening the amount of water. In the preparation of doughs for pastries all that is necessary to do is to mix the powdered milk with the flour. The product will keep for months in any climate with reasonable care.

The American Museum of Safety Devices and Industrial Hygiene is holding an exposition on the fifth floor of the McGraw building at 231 West Thirty-ninth street, New York. The exposition opened on Monday last and will continue for several weeks. The Welin Quadrant Davit have a display of their full size N Davit carrying a dinghey on the section of a power boat, together with other models of davits, life boats, life rafts, log controllers and various other devices. Anyone interested in life saving devices who may be contemplating a trip to New York in the future would do well to bear this exposition in mind.

The steamer Wm. H. Wolff, building at the Lorain yard of the American Ship Building Co., for Capt. Dennis Sullivan, of Chicago, will be launched on Saturday next. The steamer Rufus P. Ranney, building at the Superior yard of the American Ship Building Co., for the Triton Steamship Co., managed by J. R. Davock, of Cleveland, will also be launched next Saturday.

The steamer Wm. Livingstone will be launched at the Ecorse yard of the Great Lakes Engineering Works on Saturday, April 25. She is building for the Mutual Steamship Co., of which G. A. Tomlinson, of Duluth, is manager.

From the reports of records of small arm target practice received from first and second class vessels of the United States Revenue Cutter Service for the six months ended Dec. 31 last, the following three vessels made the best records: First, the Algonquin, at Porto Rico; second, the Tuscarora, at Milwaukee; third, the Forward, at Key West.

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BOSTON MARINE NOTES.

Boston, April 15.—An order has been issued from the navy department transferring Commander John L. Gow, inspector of machinery for the navy department at the works of the Fore River Ship Building Co., Quincy, Mass., to duty as head of the department of steam engineering at the Norfolk, Va., navy yard. Commander Gow will leave Quincy April 20, and will report at Norfolk April 26.

Commander E. Theiss, will be transferred from New York to duty as inspector of machinery at the Fore River Ship Building Co., beginning April 20, to fill the position made vacant by the promotion of Commander Gow.

The buyers of steel throughout the country are making demands on the United States Steel Corporation for a reduction of 10 per cent in the price of finished steel products.

The tugboat Nonpareil, owned by the Peoples Brothers, of Philadelphia, and which sank at the Staples Coal Co.'s wharf, East Boston, last Thursday, has been raised by the Betts Wrecking Co.

The turbine steamers Yale and Harvard, which have been lying at Brown's wharf, East Boston, since the Metropolitan line discontinued its outside passenger service last October, are now being overhauled preparatory to a resumption of their trips to New York.

A thrilling rescue of 35 men from their sinking craft was accomplished by the Dominion line steamer Turcoman, which arrived at Portland, Me., April 6, from Bristol, five days behind time. The Turcoman brought the crew of the barkentine Bearn et Bretagne of St. Bervan, France, which foundered on March 27, in mid-ocean after she had been dismasted.

The question of the rights of American fisherman in Newfoundland waters has been reopened by the arrest at Port Aux Basques, N. F., of Captains Morrissey and Spinney, of the Gloucester fishing fleet. The two captains were summoned into court for fishing with trawls inside the three-mile limit. Port Aux Basques is included in that part of the coast of Newfoundland where American fishermen have the right under the treaty of 1818 to fish wheresoever they please, either inside or outside territorial waters. The fishermen were advised to pay their fines pending the settlement of the whole question at The Hague.

G. H. C.

APPOINTMENTS OF MASTERS AND ENGINEERS

		CAPTAIN.	ENGINEER.
	LAKE MICHIGAN CAR FERRY TRANSFER CO., CHICAGO, ILL.		
Str.	S. M. Fisher	Fred Johnson	Fred Green
	LAKE SHORE NAVIGATION CO., CLEVELAND, O.		
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	CAPT. WALTER S. LLOYD, DULUTH, MINN.		
Str.	Mascotte	Burdette J. Roberts	Swan Johnston
	CHARLES LONSBY, MT. CLEMENS, MICH.		
Str.	Ida E.	H. D. Moore	————
	JAMES M'BRIER, ERIE, PA.		
Str.	Nyanza	G. A. Montgomery	John Duchene
	THOMAS M'GOWAN JR., DETROIT, MICH.		
Sch.	D. P. Rhodes	Thomas McGowan	
	M'LACHLAN TRANSPORTATION CO., PORT HURON, MICH.		
Str.	C. F. Bielman	John T. Hanson	William Pilkey
Sch.	Mary E. M'Lachlan	Alex Shambleau	
	MARINE TRANSPORTATION CO., OGDENSBURG, N. Y.		
Str.	Nipigon	J. W. Goodrich	D. G. Costello
Pge.	Middlesex	Archie Grandee	
	MARQUETTE & BESSEMER DOCK & NAVIGATION CO., CONNEAUT, O.		
Str.	M. & B. No. 2	R. R. McLeod	E. Wood
"	M. & B. No. 1	M. M. Rowan	R. Leitch
	MERSHON, SCHUETTE, PARKER & CO., SAGINAW, MICH.		
Str.	Langell Boys	E. M. Goodwin	Gilbert McLelland
Bge.	G. K. Jackson	Charles Loynes	
	MICHIGAN CENTRAL RAILROAD CO., DETROIT, MICH.		
	Henry L. Innes, Captain of all vessels.		
Str.	Transport	Fred Wilkinson William King	John Cockburn
"	Transfer	George D. Horn John Craig	Arthur O. Barton
"	Michigan Central	James Wheelihan	Alex Pirie
"	Detroit	A. J. Huntoon Russel Aiken	David Black
	MICHIGAN, INDIANA & ILLINOIS LINE, CHICAGO, ILL.		
Str.	John Oades	H. M. Boyce	Eugene Hidden
"	Marion	H. J. Nelson	Fred Gartung
	JAMES A. MEYERS, 265 LA SALLE STREET, CHICAGO, ILL.		
Sch.	Bertha Barnes	J. P. Clark	
"	S. A. Wood	Ed Maloney	
	WILLIAM MUELLER CO., BLANEY, MICH.		
Str.	Mueller	Frank Elliott	————
Sch.	Butcher Boy	H. K. Woerpel	
	NAUGLE POLE & TIE CO., CHICAGO, ILL.		
Str.	George Burnham	Edwin Carus	Daniel McLennan
	S. O. NEFF TRANSPORTATION CO., MILWAUKEE, WIS.		
Str.	Omaha	Louis Holmes	R. Elhammer
"	Adella Shores	Samuel Holmes	R. Mott
	NIPIGON TRANSIT CO., GROSSE POINTE, MICH.		
Str.	J. C. Ford	James McLarty	Hubert Manion
	NORTHERN STEAMSHIP CO., BUFFALO, N. Y.		
	F. C. Cruger, Manager.		
Str.	North West	George A. Minar	M. N. MacDonald
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	OGDENSBURG COAL & TOWING CO., OGDENSBURG, N. Y.		
Str.	Nicaragua	James Owen	Freeman Axtell
"	Avon	George P. Clifford	Patrick Holleran
Bge.	Henry Witbeck	Justia Mallet Sr.	
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"	Fred Carney	Timothy Hunt	
"	Menominee	Adelor Demers	
"	Hoboken	Henry Newhouse	
"	H. B.	Alfred Lalonde	
"	James Buckly	Narcisse Lalonde	
"	Ireland	Hector Latour	
	CHARLES OSBORNE, MARINE CITY, MICH.		
Sch.	Jane Ralston	Charles Osborne	
	OWEN SOUND PARK CO., LTD., OWEN SOUND, ONT.		
Str.	Canada	————	E. J. Riley

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"	Pere Marquette 20	J. C. Ackerman	Robert MacLaren
"	Pere Marquette 14	George McPherson	Charles Henry
"	International	George J. Carter	George Brown

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"	St. Irenee	J. Simard	Z. Lacroix
"	Tadousac	J. Dugal	M. Latulippe
"	Murray Bay	A. Fortin	A. Gendron
"	Chicoutimi	W. Gagne	I. Matte
"	Three Rivers	J. Faubert	G. Gagnon
"	Beaupre	A. Mandeville	E. Denis
"	Berthier	A. Mondor	E. Beaucage
"	Terrebonne	A. Valois	J. St. Michel
"	Laprairier	P. McLean	H. Noel
"	Longueuil	L. Daignault	C. Hamel
"	Boucherville	L. Laviolette	G. Bourret
"	Brockville	J. P. Stephenson	B. Pintal
"	Rapids Queen	George Batten	W. Johnston
"	Cornwell	C. Laviolette	C. Gendron
"	Prescott	A. Dunlop	———

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"	A. McVitte	John Smith	C. P. Moshier
"	Rutland	W. H. Plumb	M. J. Reagan
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"	D. Leuty	Walter B. Warner	Herman Wolf
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MARCH LAKE LEVELS.

The United States lake survey reports the stages of the great lakes for the month of March, as follows:

Lakes.	Feet above tide-water, New York.
Superior	601.77
Michigan-Huron	580.59
Erie	572.66
Ontario	247.39

Since last month Lake Superior has fallen 1¼ in., Lakes Michigan-Huron have risen an inch, Lake Erie has risen 6½ in., and Lake Ontario nearly 5 in.

During the present month Lake Superior should rise 1 in., Michigan-Huron 3 in., Erie 7 in., and Ontario 8 in. By midsummer all the lakes should be a foot or more higher than during March.

Lake Superior is 9 in. higher than in March, 1892, 3¾ in. higher than in 1898, and about the same height as in 1899; but it is 6 in. lower than in 1901, 2 in. lower than last year, and 2¾ in. below the average March stage of the past 10 years.

Lakes Michigan-Huron, aside from the years 1906 and 1907, show the highest March stage since 1894. They are the same height as in 1894, ½ in. lower than in 1890, 2½ in. lower than in 1906, and 28¼ in. lower than in 1886; but they are 3 in. higher than in 1905, 17¾ in. higher than in 1896, and 5 in. higher than the average March stage of the past 10 years.

Lake Erie shows the highest March stage since 1891. It is 5 in. higher than last year, 11½ in. higher than 1906, 22 in. higher than in 1896, and 11½ in. above the average March stage of the past 10 years; but it is 1 in. lower than in 1891, and 14½ in. lower than in 1887.

Lake Ontario shows the highest March stage since 1887. It is 11 in. higher than last year, 21 in. higher than in 1904, 37 in. higher than in 1897, and 23½ in. higher than the average March stage for the past 10 years. It is only half an inch lower than in the year 1887.

Edward Kurtz, clerk of the federal court of Milwaukee, is hearing evidence as special master to decide the amount of damages to be paid for the sinking of the steamer City of Berlin on Aug. 2, 1905. Judge Landis put the blame on the steamer Chili which collided with the City of Berlin, but this decision was reversed by the higher court, both boats being held to blame.

PLAQUEMINE LOCK.

Col. E. H. Ruffner, government engineer, New Orleans, La., opened bids recently for placing 20,000 cubic yards of earth filling behind the walls of the Plaquemine lock. The bidders were: M. L. Linnan, McCall, La., 89 cents; W. O. Burton & Co., Plaquemine, La., 95 cents, and A. E. Parker, Vicksburg, Miss., 98 cents per cubic yard.

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DREDGING IN PAWCATUCK RIVER.

Abstract of proposals for dredging in Pawcatuck river and Little Narragansett Bay, R. I., and Conn., received in response to advertisement dated Feb. 12, 1908, and opened March 13, 1908, by Major Harry Taylor, Corps of Engineers, U. S. Army.

No. of proposal.	Names of bidders.	Price per cu yd.
1	John P. Randerson, Albany, N.Y.	.22
2	Maritime Dredging Co., New York, N. Y.	.34
3	John & Joseph McSpirit, Jersey City, N. J.	.32
*4	The T. A. Scott Co., Inc., New London, Conn.	.21¼
5	J. S. Packard Dredging Co., Providence, R. I.	.25 9/10

*Lowest bid; recommended for acceptance.

DREDGING IN THAMES RIVER.

Abstract of proposals for dredging in Thames river, Conn., received in response to advertisement dated Feb. 10, 1908, and opened March 11, 1908, by Major Harry Taylor, Corps of Engineers, U. S. A.

No. of proposal	Names of bidders.	Dredging 100,000 cu. yds. Price per cu. yd.
1	P. Sanford Ross, Inc, Jersey City, N. J.	.19 7/10
2	John P. Randerson, Albany, N. Y.	.16
3	Maritime Dredging Co., New York, N. Y.	.26
*4	Atlantic Dredging Co., New York, N. Y.	.14 3/10
5	T. A. Scott Co., Inc., New London, Conn.	.19
6	J. S. Packard Dredging Co., Providence, R. I.	.15 3/10
7	John & Joseph McSpirit, Jersey City, N. J.	.24
8	Charles M. Cole, Fall River, Mass.	.17¾

*Lowest bid; recommended for acceptance.

RIPRAP DULUTH CANAL.

Bids for furnishing and placing about 2,660 tons of riprap at the Duluth canal piers. Opened by Major Graham D. Fitch, Corps of Engineers, at Duluth, Minn., March 16, 1908:

No. of bid.	Name and address of bidder.	For 2,660 tons of riprap (more or less) in place, per ton of 2,000 lbs.	Total.
1.	Great Lakes Dredge & Dock Co., Chicago, Ill.	$2.50	$6,650.00
*2.	Whitney Bros. Co., Superior, Wis.	1.50	3.990.00

*Accepted.

BIDS FOR STEEL PLATE.

Abstract of proposals received in response to advertisement for steel plate delivered at Superior, Wis., and opened by Major Graham D. Fitch, Corps of Engineers, at Duluth, Minn., April 9, 1908:

No. of bid.	Name and address of bidder.	For furnishing and delivering 633,516 lbs. (more or less) as per specifications. Cts. per lb.
1.	Marshall-Wells Hdw. Co., Duluth, Minn.	.02465
2.	National Iron Co., Duluth, Minn.	.022925
3.	Belmont Iron Works, Philadelphia, Pa.	.0215
4.	American Bridge Co. of New York, Minneapolis, Minn.	.0259
5.	Penn Bridge Co., Beaver Falls, Pa.	.0236
6.	Joseph Cody & Sons, Peoria, Ill.	.0235
7.	Jones & Laughlin Steel Co., Pittsburg, Pa.	.021575
*8.	G. & W. Mfg. Co., New York City	.02099
9.	Scully Steel & Iron Co., Chicago, Ill.	.023
10.	MacKinnon Boiler & Machine Co., Bay City, Mich.	.0233
11.	Cambria Steel Co., Philadelphia, Pa.	.02205

*Recommended for acceptance.

M. SICKEN, MARINE CITY, MICH.

Str.	George King	Hector Brown	William Flannigan
"	S. K. Martin	Jacob Mariero	M. Owen
"	M. Sicken	John Kuhn	D. Black
Sch.	Teutonia	H. Lawrence	
"	Thomas Gawn	J. Lawrence	
"	D. Pendell	J Chartrain	
"	Grace Whitney	O. W. Thompson	
"	L. Rawson	John Gilbert	
"	C. Spademan	J. Bond	
"	Melvina	E. Booth	
"	St. Joseph	M. Sicken	

FRANK W. SMITH, MILWAUKEE, WIS.

Str.	E. M. Peck	T. D. Lawler	Harry Stokke
"	Pueblo	T. E. Clark	John Smith
"	Mary H. Boyce	Anton Christenson	Theo Nelson

JOHN SMITH, MGR., MANISTEE, MICH.

Str.	Helen C.	Peter G. Young	Henry Bruton

ISAAC STEPHENSON, MARINETTE, WIS.

Str.	I. Watson Stephenson	L. F. Strahan	Joseph Nold

CAPT. WILLIAM STRONG, TONAWANDA, N. Y.

Str.	F. A. Meyer	William H. Strong	George McMonagle
Sch.	Emma C. Hutchinson	John Radigan	

SYLVESTER BROS., TORONTO, ONT.

Sch.	St. Louis	George Williamson	

CAPT. WILLIAM F. THOMPSON, M. O., DULUTH, MINN.

Str.	M. C. Neff	William F. Thompson	John Places

G. A. TOMLINSON, DULUTH, MINN.

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"	Sonoma	C. M. Haight	B. St. Bernard
"	Sylvania	E. W. Craine	N. P. Slater
"	Sonora	J. T. Weaver	John Saxe
"	Sinaloa	William McGregor	Edward Sampson
"	Socapa	George Warwick	T. H. Welsh
"	Yosemite	C. L. Seeley	Fred McLaughlin
"	Saxona	Ernest Warwick	S. K. Kissack
"	Hoover & Mason	Charles Autterson	John Adams
"	Sahara	William Landon	William McCarron
"	Ball Brothers	Thomas McDougall	William Bridges
"	Frank C. Ball	Wesley Brown	M. J. McAuliffe
"	Sierra	Harold Davidson	Nick Patterson
"	James E. Davidson	Hugh Stevenson	V. M. Jarrett
"	H. A. Berwind	C. C. Tousley	A. R. Fortier
"	William Livingstone	D. P. Craine	Robert J. Close
"	F. G. Hartwell	W. G. Maltby	Frank T. Goodwin

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"	Manchester	E. Zwemer	J. Grant
"	F. Schlesinger	E. H. Brownell	C. Moderson
"	F. L. Vance	D. L. Vail	Case Ball
"	R. P. Flower	William Rosie	G. Olson

WAGGONER & ROULETT STEAMBOAT LINE, GREEN BAY, WIS.

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WARDE TRANSPORTATION CO., CHICAGO, ILL.

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"	Duluth	S. R. Jones	———
"	Milwaukee	Henry Murphy	———
"	Mohawk	H. L. Dennis	———
"	Superior	Donald Gillies	———
"	Rochester	Robert Murray	———
"	Syracuse	John Kennedy	———
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"	Iron City	Richard Moore	

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"	City of Toledo	John J. Stover	M. Gilligan
"	Owana	W. G. Adams	Charles McCorten

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Str.	Iron Age.	W. J. Willoughby	R. Baxter

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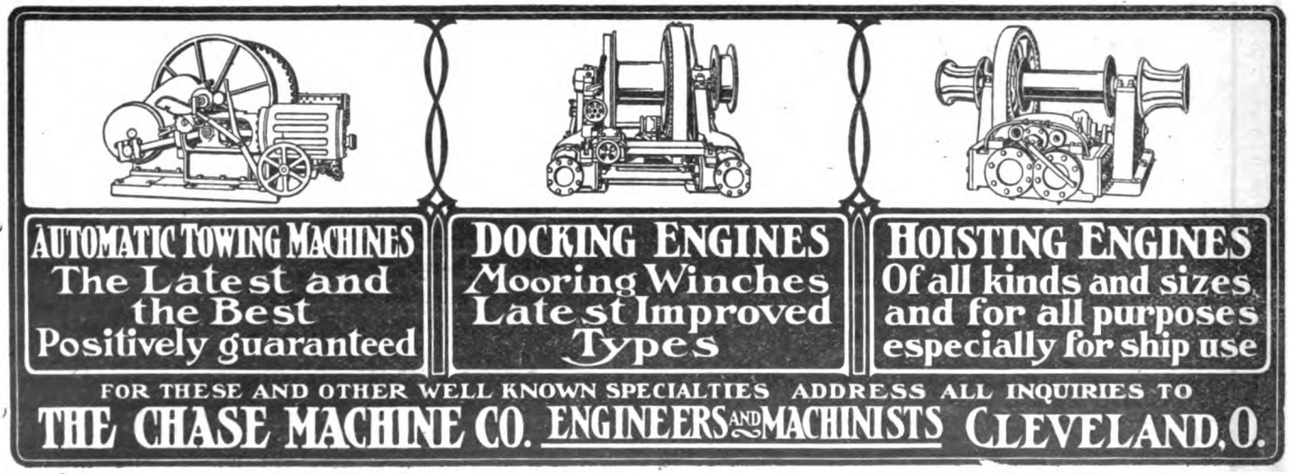

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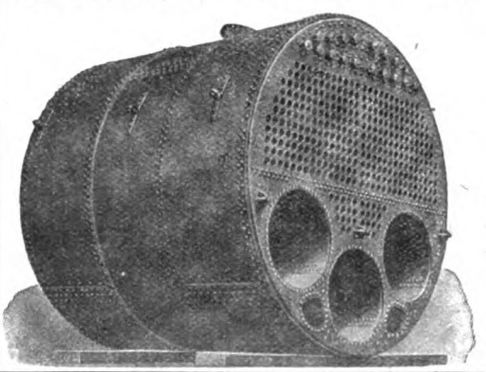

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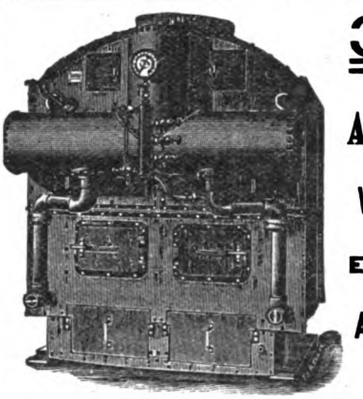

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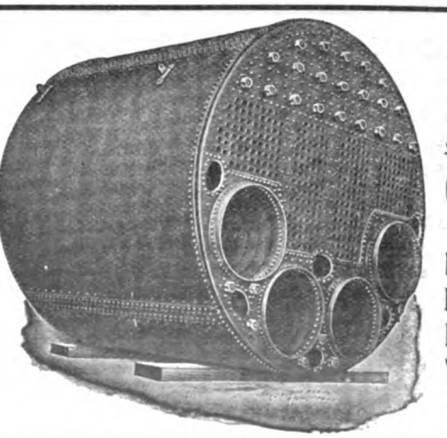

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PROPOSALS.

U. S. Engineer Office, Milwaukee, Wis., March 20, 1908. Sealed proposals for building pile pier, removing old pier, and dredging at Waukegan Harbor, Ill., will be received here until 2 p. m., April 20, 1908, and then publicly opened. Information furnished on application. W. V. Judson, Major Engrs.

U. S. Engineer Office, 57 Park St., Grand Rapids, Mich., April 13, 1908. Sealed proposals for Repair of South Pier at Holland, Mich., will be received here until 3 P. M., May 13th, 1908, and then publicly opened. Information furnished on application. M. B. Adams, Col, Engrs.

U. S. Engineer Office, Boston, Mass., March 31, 1908. Sealed proposals for dredging in Dorchester Bay and Neponset River, Mass., will be received here until 12 M., April 30, 1908, and then publicly opened. Information on application. Edw. Burr, Lt. Col., Engrs.

Treasury Department, Office of General Superintendent, U. S. Life-Saving Service, Washington, D. C., April 1, 1908. Sealed proposals will be received at this office until 2 o'clock P. M. of Tuesday, the 28th day of April, 1908, and then publicly opened for furnishing supplies required for use of the Life-Saving Service for the fiscal year ending June 30, 1909; the supplies to be delivered at such points in New York City, Grand Haven, Mich., and San Francisco, Cal., as may be required, and in the quantities named in the specifications. The supplies needed consist of Beds, Bedding, and Furniture; Brooms and Brushes; Crockery; Hardware; Household Goods; Lamps, Lanterns, etc.; Medicines, etc.; Paints, Oils, etc.; Ship Chandlery; Stoves, etc., Tools and Miscellaneous Articles; all of which are enumerated in the specifications attached to the form of bid, etc.; which may be obtained upon application to this office, or to the Inspector of Life-Saving Stations, 379 Washington Street, New York City; Superintendent Twelfth Life-Saving District, Grand Haven, Mich.; and Superintendent Thirteenth Life-Saving District, New Appraisers' Stores, San Francisco, Cal. Envelopes containing proposals should be addressed to the "General Superintendent U. S. Life-Saving Service, Washington, D. C.," and marked on the outside "Proposal for Annual Supplies." The right is reserved to reject any or all bids, and to waive defects, if deemed for the interests of the Government. S. I. KIMBALL, General Superintendent.

Proposals for Dredging. Engineer Office, U. S. Army, Room 2, Custom House, Norfolk, Va., April 11, 1908. Sealed proposals for dredging Appomattox River, Va., will be received at this office until 12 o'clock, noon, May 15, 1908, and then publicly opened. Information furnished on application. Joseph E. Kuhn, Maj., Engrs.

U. S. Engineer Office, Chicago, Ill., April 13, 1908. Sealed proposals for dredging and rock excavation in Chicago river and harbor, Illinois, will be received here until 10 A. M., May 13, 1908, and then publicly opened. Information on application. W. H. Bixby, Colonel Engineers.

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5, 6 AND 7 MARINE BUILDING
TOLEDO, OHIO.

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Dipper and Clam Shell Dredges Especially Equipped for Rock Work and for Very Deep Dredging.

General Contractors on all MARINE WORK

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C. H. STARKE DREDGE & DOCK CO.,

Contractors for Public Works.

DREDGING, PILE DRIVING, AND SUBMARINE PIPE LAYING.

Canal Street, West of First Avenue,

Milwaukee, - - Wisconsin.

Buffalo Dredging Co.

GENERAL CONTRACTORS ON SUBMARINE WORK

Office D. S. Morgan Bldg. BUFFALO, N. Y.

Dunbar and Sullivan DREDGING Company

BUFFALO, N. Y.

REMOVE SUBMARINE ROCK OR EARTH

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BUYERS' DIRECTORY

Advertisements can be found readily by reference to the Alphabetical Index.

AIR COMPRESSION, HOISTS.
Great Lakes Engineering Works.. .....Detroit.

AIR PUMPS AND APPLIANCES.
Fore River Ship & Engine Co..... ..... Quincy, Mass.
Great Lakes Engineering Works... ..... Detroit.

ANCHORS.
Admiral Anchor Co.....Chester, Pa.
Bowers, L. M. & Co..... ..... Binghamton, N. Y.

ANTI-FRICTION METALS.
Cramp, Wm. & Sons...Philadelphia.

ANTI-RUST COATINGS.
Hardy Paint & Varnish Co..... .....Toledo, O.

ARTIFICIAL DRAFT FOR BOILERS.
American Ship Building Co..... ..... Cleveland.
Detroit Ship Building Co...Detroit.
Great Lakes Engineering Works... ..... Detroit.

ASH EJECTORS.
Great Lake Engineering Works.... ..... Detroit.

ATTORNEYS AND PROCTORS IN ADMIRALTY.
Gilchrist, Albert J.....Cleveland.
Goulder, Holding & Masten..... ..... Cleveland.
Hyner, P. D..... Erie, Pa.
Hoyt, Dustin & Kelley...Cleveland.
Jenkins, Russell & Eichelberger.... ..... Cleveland.
Kremer, C. E.....Chicago.
MacDonald, Ray G.....Chicago.
Marshall, Alexander..Duluth, Minn.
Shaw, Warren, Cady & Oakes..... ..... Detroit.

BAROMETERS, MARINE GLASSES, ETC.
Ritchie, E. S. & Sons..... .....Brookline, Mass.

BLOCKS, SHEAVES, ETC.
Boston Lockport Block Co..... ..... Boston, Mass.

BOAT BUILDERS.
Drein, Thos., & Son..... .....Wilmington, Del.
Truscott Boat Mfg. Co..... .....St. Joseph, Mich.

BOILER COMPOUNDS.
Bird-Archer Co.....New York.

BOILER MANUFACTURERS.
Almy Water Tube Boiler Co..... ..... Providence, R. I.
American Ship Building Co..... ..... Cleveland.
Atlantic Works..East Boston, Mass.
Briggs, Marvin.....New York.
Chicago Ship Building Co..Chicago.
Copeland Co., E. T.....New York. (Copeland Scotch Improved.)
Cramp, Wm. & Sons..Philadelphia.
Delany, P. & Co...Newburgh, N. Y.
Detroit Ship Building Co..Detroit.
Fletcher, W. A. & Co..... .....Hoboken, N. J.
Fore River Shipbuilding Co..... .....Quincy, Mass.
Great Lakes Engineering Works... ..... Detroit.
Kingsford Foundry & Machine Works.....Oswego, N. Y.
Maryland Steel Co..... .....Sparrow's Point, Md.
Marine Iron Works.....Chicago.
Milwaukee Dry Dock Co..... ..... Milwaukee.
New York Shipbuilding Co..... .....Camden, N. J.
Quintard Iron Works Co..... .....New York.
Roberts Safety Water Tube Boiler Co..... New York.
Superior Ship Building Co..... .....Superior, Wis.
Toledo Ship Building Co....Toledo.

BOILER STAYBOLTS, IRON OR STEEL, HOLLOW OR SOLID.
Falls Hollow Staybolt Co..... .....Cuyahoga Falls, O.

BRASS GOODS.
Michigan Lubricator Co.....Detroit.
Penberthy Injector Co..... .....Detroit, Mich.

BRASS AND BRONZE CASTINGS.
Cramp, Wm. & Sons...Philadelphia.
Fore River Ship & Engine Co..... .....Quincy, Mass.
Great Lakes Engineering Works... ..... Detroit.

BRIDGES, BUILDERS OF
Scherzer Rolling Lift Bridge Co.... ..... Chicago.

BUCKETS, ORE AND COAL.
Brown Hoisting & Conveying Machine Co.....Cleveland.

CABIN AND CABINET FINISHING WOODS.
Martin-Barriss Co.....Cleveland.

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U. S. Graphite Co., Saginaw, Mich.

CANVAS SPECIALTIES.
Baker & Co., H. H.....Buffalo.
Upson-Walton Co.....Cleveland.

CAPSTANS.
American Ship Windlass Co..... .....Providence, R. I.
Dake Engine Co..... .....Grand Haven, Mich.
Hyde Windlass Co.....Bath, Me.
Marine Iron Wks.....Chicago, Ill.

CASTINGS (Brass and Bronze).
Griscom-Spencer Co., New York City.

CASTINGS (Steel).
Otis Steel Co.....Cleveland.

CEMENT, IRON FOR REPAIRING LEAKS.
Smooth-On Mfg. Co..... .....Jersey City, N. J.

CHAIN CONVEYORS, HOISTS.
Brown-Hoisting Machinery Co..... .....Cleveland, O.
General Electric Co..... .....Schenectady, N. Y.

CHAINS.
Seneca Chain Co.....Kent, O.

CHAIN HOISTS.
Boston & Lockport Block Co..... ..... Boston, Mass.

CHARTS.
Penton Publishing Co.....Cleveland.

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Copeland Co., E. T.....New York.

CLOCKS (Marine and Ship's Bell) AND CHRONOMETERS.
Ritchie, E. S. & Sons..... .....Brookline, Mass.

COAL PRODUCERS AND SHIPPERS.
Hanna, M. A. & Co.....Cleveland.
Lorain Coal & Dock Co..... ..... Cleveland.
Pickands, Mather & Co...Cleveland.
Pittsburg Coal Co.....Cleveland.
Toledo Fuel Co.....Toledo, O.

COAL AND ORE HANDLING MACHINERY.
Brown-Hoisting Machinery Co..... .....Cleveland.

COMPASSES.
Ritchie, E. S. & Son..... .....Brookline, Mass.

COMPOUNDS—LUBRICATING.
Cook's Sons, Adam .New York City.

CONDENSERS.
Great Lakes Engineering Works... ..... Detroit.
Wheeler Condenser & Engineering Co. .....New York.

CONTRACTORS FOR PUBLIC WORKS.
Breymann Bros., G. H.....Toledo.
Buffalo Dredging Co.....Buffalo.
Dunbar & Sullivan Dredging Co.... .....Buffalo.
Griscom-Spencer Co., New York City.
Great Lakes Dredge & Dock Co.... ..... Chicago.
Starke Dredge & Dock Co., C. H... ..... Milwaukee.
Sullivan, M. .....Buffalo.

CONVEYORS (Portable).
Spence Mfg. Co.....St. Paul, Minn.

CORDAGE.
Baker & Co., H. H.....Buffalo.
Buffalo Ship Chandlery & Supply Co. .....Buffalo.
Columbian Rope Co...Auburn, N. Y.
Samson Cordage Works.Boston, Mass.
Upson-Walton Co.....Cleveland.

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